HYGEIA

THE HEALTH MAGAZINE

Published by the American Medical Association

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December, 1928 — *25 Cents*

Appendicitis

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Who's Who in This Issue

DR. J. H. J. UPHAM, who discusses appendicitis in the informative leading article, is a trustee of the American Medical Association and a professor of medicine at a state university college of medicine. DR. HARRY S. GRADLE is a specialist in diseases of the eye.

DR. W. W. BAUER is a city health officer in Wisconsin and a previous contributor to HYGEIA. An interesting series by him awaits future publication. Intelligent parents are a large factor in the successful treatment of juvenile diabetes in the home. B. FRANK MICHELSEN gives other parents the benefit of his own study and experience in caring for his daughter Elizabeth, a diabetic patient.

DR. THURMAN B. RICE, familiar to all readers of HYGEIA, is professor of sanitary science in a university medical school. "A Life and Death Matter" is the first of three articles he has prepared on vital statistics. PERSIS LEGER writes and lectures on children's toys from the psychologic point of view. DR. IRA S. WILE is a well known child psychologist and physician. DR. FREDERICK R. TAYLOR is director of the North Carolina Life Extension Unit of which he writes. A dentist, DR. M. S. STROCK, writes authoritatively on buried teeth.

DR. FRANK HOWARD RICHARDSON'S new series on the runabout child is attracting wide attention. His earlier HYGEIA series on the nervous child is now in book form. MARGUERITE B. BREEN is a free lance writer on health topics.

DR. J. A. MYERS' series on tuberculous physicians will carry on into the next volume. DR. LESTER WHITAKER, eastern physician, concludes his lucid discussion of the gallbladder in this issue. DR. CAREY P. MCCORD is medical director of the Industrial Health Conservancy Laboratories, Cincinnati. IDA SPAETH, R.N., has tested out her stories among kindergarten children and those of primary grades but this is the first one to find publication. Others will appear in HYGEIA from time to time. Miss Spaeth was formerly health education director of the Colorado Tuberculosis Association but is now a student at the University of California.

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Paracelsus Vesalius Pare Rush Pasteur Koch

Health Almanac

DECEMBER, 1928

1 A GUSTY BREEZE that chills the skin—
The sidewalk plugger's awful din—
All going out and none coming in—
December!

2 THE HEALTHY KNOW NOT of their health, but only the sick.—Carlyle.

3 "SOME DOCTORS SAY it is unhealthy to kiss, but we have never seen a doctor that we would care to kiss," said the Los Angeles Times, "so they need borrow no trouble."

4 COMMON SENSE is the average sensibility and intelligence of man undisturbed by individual peculiarities.—W. R. Alger.

5 CHRISTMAS SHOPPING is the old game of grab-bag commercialized on a large scale.

6 THE EYE IS THE ONLY ORGAN of the body besides the mouth, the fingers and some others that is capable of speech; it says usually "yes" or "don't."

7 MOTHER EVE didn't know she was naked until she ate the apple and that's the fruit most of the ladies nowadays omit from their diets.

8 THE CHIEF FUNCTION of an education is to enable its possessor to tell the difference between facts and things called facts.

9 A POLITE MAN is one who listens with interest to things he knows all about when they are told him by a person who knows nothing about them.
—Anon.

10 THOSE WHO DIFFER most from the opinions of their fellow men are the most confident of the truth of their own.—Mackintosh.

11 ROBERT KOCH, discoverer of the tubercle bacillus, formulator of Koch's laws for identifying germ causes of disease, Nobel prizewinner in medicine in 1905, was born, Dec. 11, 1843.

12 THERE IS NOTHING so sweet as the human voice to the one who is doing the talking.

13 HELL HATH NO FURY like a hypochondriac scorned.

14 A TIRED MAN plus a winter morning plus a warm bed equals a late arrival at the office.

15 IT'S FUNNY, but the man who is too poor to pay his doctor bill usually has a couple of dogs.

16 CONSISTENCY is the bugbear that frightens little minds.—Emerson.

17 AUREOLUS PHILIPPUS THEOPHRASTUS BOMBASTUS VON HOHENHEIM AB PARACELSUS, iconoclast, charlatan, alchemist, physician, leader of the revolt against Galenic dogma, was born at Einsiedeln, Switzerland, Dec. 17, 1493.

18 A CHILL is nature's way of teaching the lazy man to shimmy.

19 HEALTH IS THE SOUL that animates all enjoyments of life, which fade and are tasteless, if not dead, without it.—Sir W. Temple.

20 AMBROISE PARÉ, French founder of scientific surgery, was born, Dec. 20, 1510.

21 SHORT IS THE LIFE of those who possess great accomplishments and seldom do they reach a good old age.—Martial.

22 EVERY PASSION gives a particular cast to the countenance, and is apt to discover itself in some feature or other.—Addison.

23 AN OBSTINATE MAN does not hold opinions, but they hold him.—Pope.

24 BENJAMIN RUSH, physician and patriot, signer of the Declaration of Independence, author of notable works in the field of medicine, was born, Dec. 24, 1745.

25 THE DATE OF CHRIST'S BIRTH is not known certainly, but December 25 has been observed from the earliest times. The selection of this date was due largely to the fact that it corresponded with the greatest of the pagan festivals celebrating the winter solstice.

26 A MAN'S REAL POSSESSION is his memory.
—Alexander Smith.

27 LOUIS PASTEUR, one of the greatest scientists, who established the germ causation of disease and founded preventive medicine, was born, Dec. 27, 1822.

28 THERE ARE LOTS OF WAYS to prevent hiccups but the Volstead act did the job in a big way.

29 IN THE PRESENT DAY, and especially among women, one would almost suppose that health was a state of unnatural existence.—Disraeli.

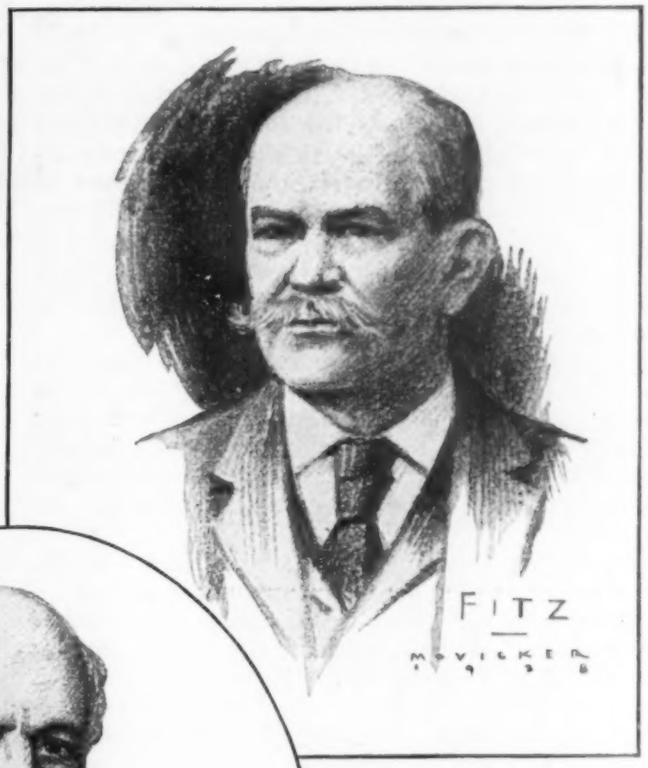
30 THE COMMON INGREDIENTS of health and long life are: great temperance, open air, easy labor, little care.—Sir Philip Sydney.

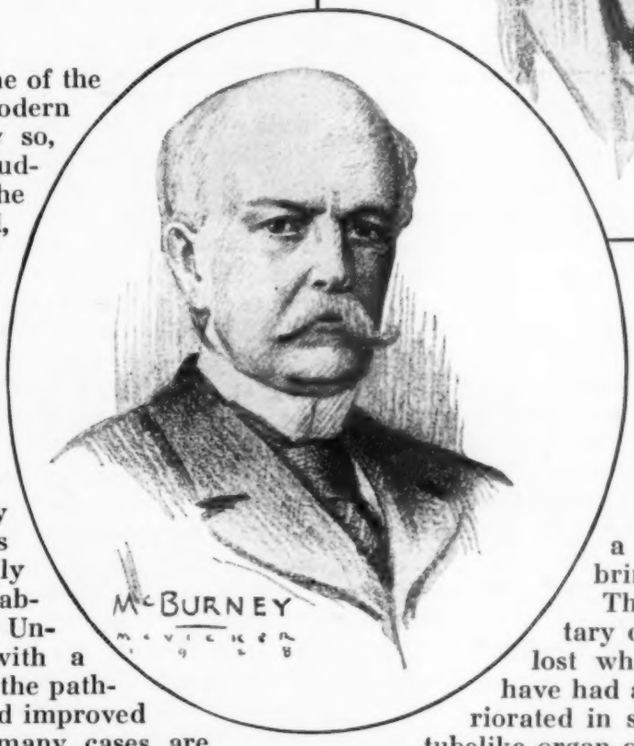
31 ANDREAS VESALIUS, founder of the modern science of anatomy, was born, Dec. 31, 1514.

M. F.

Appendicitis

By J.H.J. Upham





Dr. Reginald H. Fitz (above), who first described appendicitis, and Dr. Charles McBurney, whose name has been given to the point of special tenderness (McBurney's point) in appendicitis.

APPENDICITIS is one of the bugbears of modern life, and rightly so, because of the suddenness of its attack, the often serious, if not fatal, outcome and the lack of satisfactory preventive measures.

The question is often asked, Is appendicitis more frequent than it used to be? The answer can only be speculative, as thirty or thirty-five years ago only the more severe types were recognized, usually those associated with abscess or peritonitis. Undoubtedly, nowadays with a better understanding of the pathology of appendicitis and improved methods of diagnosis, many cases are detected that would formerly have eluded recognition.

Appendicitis may occur at any time of the year or in any period of life. It is more common between the ages of 10 and 40, but Dr. Isaac A. Abt has collected records of eighty cases in children under 2 years, and others have reported cases in men past 90. It is more frequent in males than in females, in about the proportion of sixty to forty. This is hard to account for if one places any reliance on the common belief that constipation is a factor in causing appendicitis, as women are generally conceded to be more often the victims of constipation than men.

What is the cause of appendicitis? We cannot say that there is any one cause but it is believed that a number of conditions, or rather a combination of causes, bring it about.

The appendix is a rudimentary organ; apparently it has lost whatever function it may have had and as a result has deteriorated in structure. It is a small, tubelike organ opening into the head of the large bowel, has weak muscular walls and a mediocre blood supply. Usually the opening allows free entrance and exit of the fluid or semifluid material passing along the bowel. Occasionally a foreign substance or piece of hard fecal matter may lodge in the appendix and the weak muscle walls may be unable to expel it. This may cause some local damage to the interior of the appendix or its wall or may block the exit of fecal material, but neither of these conditions will bring about actual appendicitis. There must be in addition the presence of the germs of inflammation.

These microscopic organisms vary considerably in character and virulence. They are often found in the secretions of the nose and throat and in the intestinal canal without causing any trouble or without giving evidence of

their presence, because in perfect health, local and general, the protective agencies of the body successfully guard against them.

Anything that affects the resistance of the local tissue, especially the local blood supply, or causes injuries to the skin or mucous membranes is a positive invitation to the germs of inflammation. Should these germs find lodgment in such areas, an inflammatory state is practically certain, the severity and extent depending on the virulence of the particular strain of germ.

The presence of foreign bodies in the appendix or any abnormal condition in or about the organ are predisposing factors, and whenever the inflammation germs are brought to the locality through the circulation or the lymph tract or in the bowel contents, appendicitis occurs.

The first attack may be a mild one and the patient may recover to all appearances; but no matter how mild the attack, the local structures are distorted and subsequent attacks are a mathematical certainty. Experience, and too often sad experience, has taught this to physicians, and that is the reason that the surgical removal of the appendix is urged if a person has once had appendicitis, no matter how mild the attack.

Prevention Is Difficult

The foregoing observations illustrate the difficulties that lie in the way of any plan of prevention of appendicitis. We cannot keep the bowel free from germs; we cannot be sure that the appendix is open and free from retained fecal matter nor can we guard altogether against foci of infection elsewhere in the body. At the present, therefore, the only preventive measure at hand is to urge the removal of the appendix in patients giving a history of having had appendicitis and especially in cases suggesting chronic changes in that organ.

Nowadays it is a routine procedure during abdominal operations on other organs, if the condition of the patient permits, to inspect the appendix, and if it appears at all abnormal, to remove it. In fact many surgeons advise its removal anyway, whenever the opportunity offers, as it is not always possible to judge of the normality of an appendix by its gross appearance. This is a valuable prophylactic procedure to individuals, but of course its possibilities are limited as far as the general population is concerned.

I have mentioned constipation as one of the conditions favoring the occurrence of appendicitis largely because of the general belief to that effect. The rarity of appendicitis among savages is cited in support of the relation of constipation to it, because of the infrequency of constipation among uncivilized people owing to greater coarseness of their foods, their active lives and habits in general. It has further been noted among the people of northern Africa, for instance, that if they become city dwellers appendicitis increases toward the average.

The explanation would seem to be, to my mind, that whenever people congregate in larger towns and cities, there are also to be found in greater frequency and variety the germs of inflammation and that constipation plays only an occasional part just as does any other abnormal condition in the intestinal tract.

Not Always Easy to Diagnose

The point of greatest importance about appendicitis is the prompt recognition of its presence and equally prompt treatment. It often seems a matter of wonderment and criticism, as to why there should be any difficulty in recognizing such a serious disease and any hesitation as to the appropriate treatment. The facts are, however, that appendicitis may present varied appearances in different persons and in some instances it is difficult to recognize at all.

Appendicitis may come and go as a mild local infection at times, without any physician being called, and no suspicion arises of the true character of the illness. In other cases, it may have a fairly definite onset, be readily recognized, but may subside so promptly as to make the suggestion of operation seem unnecessary. In other cases the onset may be severe and the progress so rapid that in from twenty-four to forty-eight hours, unless there is surgical intervention, peritonitis may develop. This is a serious complication leading at the best to a prolonged and grave illness if not to a fatal termination.

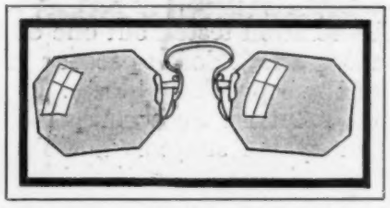
A fourth class of case is particularly deceptive; the onset may be severe, but after a time there is a sudden cessation of symptoms, and the patient, lulled to a false security, imagines all is well, only to have the symptoms of peritonitis appear a few hours later. In such instances the subsidence of symptoms is due to the rupture of the inflamed appendix, and from the anatomic position of the organ, the discharge of the inflammatory matter is almost sure to be into the general abdominal cavity, and the extremely dangerous condition of peritonitis naturally follows.

What are the signs of acute appendicitis? There are four definite ones, any one of which may occur at times without much significance, but when all four appear together they constitute a true warning of danger. These symptoms are, first, pain and tenderness in the abdomen, usually in the right lower quarter; second, stomach symptoms, usually some nausea or even vomiting; third, fever; and, fourth, a definite increase in the number of white blood cells.

Unfortunately in many instances these symptoms are accompanied by or have followed perhaps a period of constipation, and often the patient's first thought is to take a laxative. This is the worst thing that could be done. Almost all laxatives stimulate the muscular action of the bowel, and in cases of inflamed appendixes they may be the actual cause of rupture.

If one has an inflamed place on one's hand or foot, common sense tells him to keep it as quiet as possible, so that it will heal the faster. The same rule applies to appendicitis. Absolute rest in bed, no food, an ice bag over the appendix region, and, above all, competent medical judgment to advise the proper time for operation are necessary steps in treatment.

Eye Aches and Eye Fakes



By

Harry S. Gradle

THE average man will hesitate considerable time before he will risk five hundred of his hard earned dollars in any oil stock except Standard; on the other hand, he will not hesitate before entrusting his eyes to some person who has recommended himself most widely in the advertising columns of the daily press. Human credulity and human faith, when dealing with human ills, are childlike in their simplicity. And that selfsame faith is the mainstay of the charlatans and quacks whose luxurious limousines are paid for by the shekels of suffering humanity.

When that most precious faculty of sight is involved, the sufferer often loses his powers of analytical reasoning and grasps at the first straw offered. Fortunately, in a large percentage of cases, the family physician is primarily consulted, and if it lies within his province and power, he deals with the situation as circumstances may warrant. If it lies beyond him, he refers the patient to an oculist, a physician who specializes in diseases of the eye. In all except a small percentage of cases, the failing vision is either restored to normal or else preserved to a useful degree.

But in only too many cases this sensible course is not followed and then real trouble begins. The sufferer is told by some kind-intentioned but uninformed friend of Doctor So-and-So, who guarantees to cure that trouble with exercises, or secret electrical apparatus, or colored light, or garlic between the toes or some equally nonsensical procedure. So he visits this Doctor So-and-So, who is equipped with an excellent commercial secretary, suave manners, unlimited gall, and a lack of therapeutic fear that is sired by ignorance and born of callousness.

The charlatan uses big words and mystifying apparatus and the patient, who really can't know, is gulled into believing that his case is understood and can be cured. So he is dragged along until his money is exhausted or until the lack of response to treatment awakens the realization that he had best seek other advice. Then only too often it is too late and the sight is hopelessly impaired or even lost.

One of the most pernicious of these quackeries has gone so far as to develop into a system, with numerous adherents scattered round about the country. It has the magic catchwords "Throw your glasses away and See," and with that lure, entraps many. Of course, nobody wants to wear glasses unless they are necessary and no reputable oculist or optometrist will prescribe glasses without definite need. But, unfortunately, glasses are a large source of income to many whose motto seems to be "The human nose is there for the purpose of supporting glasses; therefore, let no unglassed person escape." As a result, there are only too many people on the street today who are wearing glasses needlessly. The system above referred to has its successes among overglassed

CHAS. A. TYRRELL M.D. PRES. RICHARD PALMER. TREAS.

THE NORMAL EYE

The IDEAL COMPANY

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TELEPHONE 3898 COLUMBUS

New York _____ 19

London Address
Highwater, Exchange Building
Southwark, London, England

The Ideal Company sold the "Ideal Sight Restorer," consisting of a pair of rubber eye cups connected by a tube with a rubber ball, by means of which a partial vacuum could be produced. The company advertised that it could "restore sight." The device was utterly worthless and might be dangerous.

normal persons who have already been exploited by the unscrupulous glass-seller.

Exercise of the eyes is the keynote of the system treatment, regardless of the fact that the eyes are being exercised continuously as long as the possessor of the eyes is awake. There is no exercise known to science that can improve vision one iota and every person who tries to do away with glasses by improving his vision with exercise is simply one addition to the sucker list.

Another catchpenny device that has been fairly successful in enriching the proprietors is a machine for massage of the eyes. There are several variations of the original and each one is exploited as the only sure method of curing near-sightedness, far-sightedness, cross-eyes, or what have you. The machines have cups that fit over the closed eyelids and shimmy from side to side or up and down or else in a rotary motion, depending on the plane of mental activity of the inventor. To any thinking person the whole idea with any of its multiple variations is preposterous, but the sucker lists of the quacks are not composed of thinking persons.

Recently there has been developed a mail-order method of selling glasses. The entire examination consists in answering two questions: "How old are you?" and "Have you ever worn glasses before?" To any one who has undergone the painstaking examination made by an eyesight specialist, the ridiculousness of the situation is apparent. The American Medical Association tested out one of these concerns by having a half dozen persons answer the test questions and purchase glasses by mail. The glasses thus received were compared with the glasses worn by the subjects and in every instance it was found that the mail-order glasses were so far from correct that they were useless. Even more, in several cases, the use of the glasses would have been positively harmful to the purchaser.

Now just when are glasses needed? That varies of course with the individual but there are certain broad statements that can be made. In children, glasses are needed almost invariably in case of cross-eyes; again deficient vision in the young can frequently be remedied by glasses; in certain other cases, failure of physical or mental development may be due to a true eyestrain that can be entirely relieved by glasses. But in fitting children, it is always necessary that the eyes be put at rest by use of drops.

In adults, discretion and the judgment gained by experience alone must be put forth. Glasses must not be slapped promiscuously upon the face. Insufficient vision may require glasses. Again definite aches and pains, which may or may not be centered about the eyes, may be due to that vague thing called eyestrain and may be relieved by properly fitted glasses.

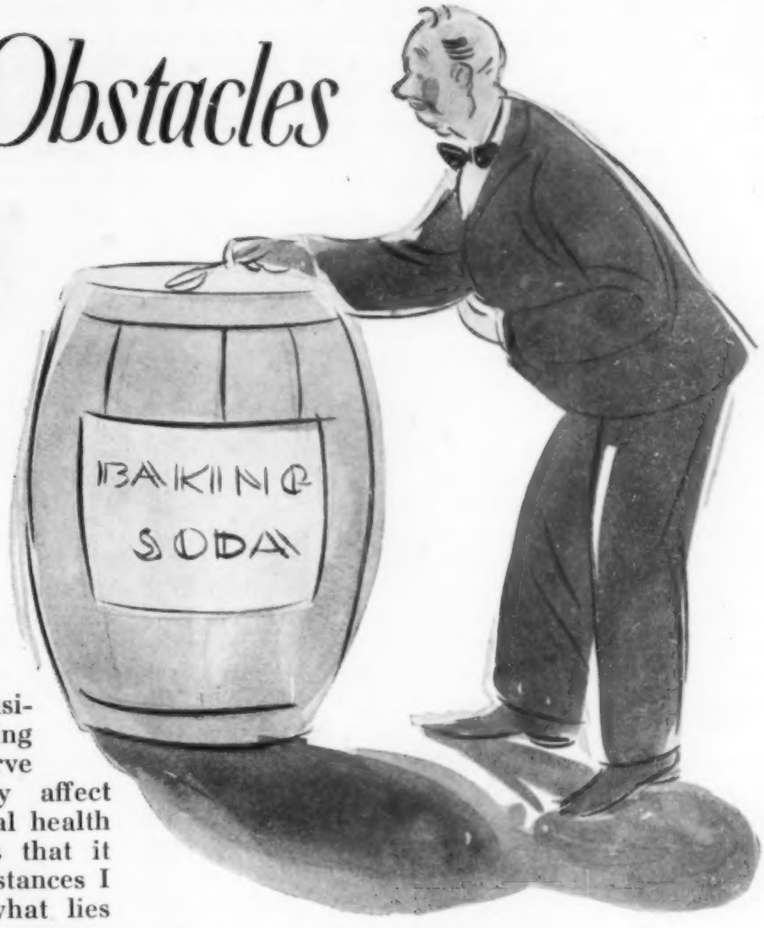
So if you have an eye ache, be careful that you do not fall into the hands of an eye fake. Your family physician can recommend a good oculist.

THROW YOUR
AWAY GLASSES
Eye Glasses are not necessary to the average man or woman now wearing them
They can be discarded with joy and comfort, if you will strengthen your eyes through our New Course of Eye Training

Here is part of an advertisement of one of the "throw-away-your-glasses-and-buy-our-course" concerns that are reaping a rich harvest from the gullible.

The Greatest Obstacles to HEALTH

By W. W. Bauer



Jones took baking soda by the barrel, firmly convinced he had ulcer of the stomach. He might as well have had, for he suffered from it mentally for years before he gained courage to visit a physician.

I AM NOT a psychologist, but my business as health officer of a growing city gives me opportunity to observe psychologic phenomena as they affect health. So many problems of physical health are complicated by mental reactions that it seems worth while to relate a few instances I have encountered and to consider what lies back of the actions in the minds of the persons involved.

We all know persons who refuse to go to a physician, bearing semi-invalidism with a greater or less degree of stoicism, because of a fear of what the doctor may find. Ask any of these persons if they do not realize that neglect may make matters worse and they will usually acknowledge that they do. I know one man who spent years suffering from a distressing stomach ailment, taking baking soda literally by the barrel; he was firmly convinced that he had an ulcer of the stomach but feared confirmation of the diagnosis. At last he was forced to seek relief and found that his stomach, so far from having an excess of acid, had practically none. A few drops of acid with his meal made him well. He never had an ulcer, though he might as well have had, for he suffered from one mentally for years.

He'll Die Before He'll Be Operated On

There is the person who is so impressed with the occasional fatality accompanying surgery that he will die before he will submit to an operation. And he does. It is the same frame of mind that keeps many from availing themselves, for their children, of the modern means of preventing diphtheria, or even causes them to refuse antitoxin for its cure in cases in which death is inevitable without it. They have heard of some bad results, and they are not going to take any chances. Most of these people have never seen any of the things they fear nor have they authentic proof of them; they are basing their opinions on word of mouth rumors. They might not credit gossip that their next-door neighbor was a thief, but they believe whatever they hear about health, except what comes from authoritative sources. These people are ruled by their fears.

Whatever It Is, He's "Agin" It

Another type of mental reaction is represented by persons whom a friend of mine calls the "agin-its." They are against everything. Tell them about the importance of supervising the health of well babies to keep them well. They are "agin" it. Recommend an annual physical examination as a health measure. They are "agin" that. Try to persuade them of the truth of any of the well founded and universally accepted health facts of today and see how much impression you can make on their adamantine opposition. Of course there are people who are honestly opposed to things.

Such people have reasons which, however mistaken they may be, are nevertheless reasons until they have been successfully overcome. But the chronic "anti" is just "anti," and that's that. He hasn't any reasons; he doesn't need any. He won't because he won't. Nobody is going to tell him what to do!

When Optimism Becomes Dangerous

Optimism is admittedly an excellent characteristic, in its proper place and in reasonable amount. When applied to health it may become dangerous. I was talking to a father of four children during a serious outbreak of smallpox in 1925. None of his family, himself included, had ever been vaccinated, though he was not opposed to having them so treated. He was perfectly confident that his home would escape and laughingly put off the precaution. If I were inventing this story, there would have to be several cases and possibly a death in that family, as a horrible example. But I am telling it as it happened. They did escape and they are not vaccinated yet. Of course the laugh is on me—so far.

"It has been my experience . . ." says the mother of a family of eight, ". . . and I guess I ought to know." Never mind on what subject she had the experience, it is hers and she will treasure it. She will also be guided by it. Has she not had eight children, and didn't all of them have all of the diseases of childhood—some of them twice? Who are you to tell her that much illness is needless? What if the assembled experience of many experts over a long period of years is contrary to her own? She has her own, and it is hers.

Suspicion lurks in the background of many an interesting reaction toward progress in matters of health. I have been told in all sincerity by a gentleman of education and experience that my interest in the health of children was a well calculated play for publicity. He did not put it as baldly as that, but his meaning was clear. He had met demagogues; he knew their flair for the limelight; he observed the publicity that I gave to health matters. His conclusions were justified in his own mind; he was wary of the species of dog that had bitten him. Nevertheless his attitude might be a real hindrance to a health program if he happened to be a man of influence.

The emotional attitude toward health matters is perhaps the most common of all, especially when children are concerned. We observe it constantly in our clinical work. It is especially unfortunate because it has such a profound influence on children's reactions. It is exemplified by the mother who wishes her children to have diphtheria prevention but who cannot bear to see them stuck with a needle. She lets the children see her feeling. It is only natural for them to conclude from her attitude that something is about to happen to them of which they may well be afraid. Often it is evident that the simple treatments have been discussed at home in the presence of the children, who come with firmly fixed ideas that something dreadful is about to happen. The only possible result is a scene, sometimes a struggle, and the child departs needlessly upset, frightened beyond reason, and magnifying a little hurt into a big fear.

Parent Assumes Child Will Be Frightened

Another manifestation of exaggerated timidity on the part of the parent is the assumption that the child will be frightened. This results in premature efforts to allay a fear that does not exist and promptly creates the very result it was intended to avoid. Some parents will falsely assure the children that nothing is to be done except to look at them. Unless the doctor is wise enough to make this false statement a truth by postponing everything except a look, the child's confidence in the truthfulness of his parents is destroyed. Their mistaken course merely necessitates another trip to the doctor.

Mother wants her small daughter to have diphtheria prevention but she cannot bear to see her stuck with a needle.

Most of these attitudes toward children are based on a mistaken conception of how much they understand and remember. Over and over again, when I have tried to call the attention of apparently intelligent mothers to this, they have assured me that the little one did not

"My dear, I've had eight children and I ought to know. Have not all the eight of them had all the diseases of childhood—some of them twice?"

really comprehend. They know better than that, for they have all been scandalized by having a small child repeat remarks in company that were intended only for the family circle. The capacity of our children for absorbing and retaining impressions is much greater than we usually credit it to be.

I have written thus frankly about these various attitudes of mind not because they are amusing, though sometimes they are, but because I conceive them to be the greatest obstacles to progress in individual and public health. I think that public health in the future depends no more on the further dissemination of health knowledge than on the conquest of these mental reservations, antagonisms and inhibitions. They affect many persons, not only individually but through contact. They spread like the contagious diseases. Each is likely to be a center of influence of a group. Sometimes these groups crystallize into organizations and employ all the modern methods of publicizing their point of view. They are, in the last analysis, responsible for the continued existence of plagues like diphtheria and smallpox, for which we hold in our hands the weapons of annihilation.

We Must Cultivate Open Minds

If you have been amused or irritated by the types I have tried to portray here, as I have been, you will find it profitable to hold your own mind up to the mirror of introspection. There is no trait here set forth that is not common to you and me and all our fellow men. The only difference is in the emphasis these qualities have attained in various personalities. We all know that there are movements and persons who arouse our suspicions though we cannot explain why. We all harbor ideas based on our own limited and often erroneous experience. We all resent being told what and how to do. We all fall into unwarranted pessimism or indulge in foolish optimism. We are all, in some phases of our personality, "agin-its." What all of us need is to cultivate the open mind.

Samuel Hopkins Adams, in his series, "The Great American Fraud," published some years ago, made the observation that the average American loses his native shrewdness when he goes into the market to purchase relief from suffering. It seems to me that that is true largely because he allows his shrewdness to be overshadowed by prejudices, suspicions, antagonisms, fears and fallacies masked under the guise of experience and judgment. Otherwise how can it be possible that we still allow certain diseases to exist and even flourish when we have at hand the means for their destruction?

Must Learn to Know False from True

Our democratic form of government leaves us a wide choice in many personal matters, including health. As long as our conduct does not menace the welfare of our fellows, we are free to do as we please. This is as we think it should be. It places on us a responsibility for our own welfare that makes it imperative that we learn to distinguish the false from the true, the educational from the propaganda motive. Especially does it give us a mandate for the health of our children. Our attitudes will inevitably influence their thoughts and their reactions. We owe it to them to teach them, as much as in us lies, to make decisions on the merits of questions rather than on prejudices, superstitions, phobias or emotional responses to demagogic appeals.

Rescued by Insulin

Eliabeth Michelsen, three years after the beginning of insulin treatment. She has gained 35 pounds during the period of treatment.

"WILL I die, daddy?" asked my small daughter Elizabeth as she slipped her hand into mine as we were leaving the office of the specialist. His verdict had been—diabetes.

"No," I assured her; "thanks to Dr. Banting and his wonderful discovery of insulin, you will live."

"But Eloise had diabetes and she died," reasoned my daughter. Eloise was a little neighbor.

"Yes," I answered, "but that was before insulin had been discovered."

So the battle against this dread disease, which has taken such a heavy toll in times past, began in my home three and a half years ago, and it has continued daily ever since.

This story of my daughter's favorable response to insulin treatment is written in the sincere hope that some of its salient features may be of help and encouragement to others who may have this disease and also to those who may have the care of such persons. For, in the light of Elizabeth's experience, together with facts about this disease gathered from authentic sources, I am certain that, with the proper use of insulin in conjunction with a rational diet, the great majority of diabetic patients may be enabled to live useful lives.

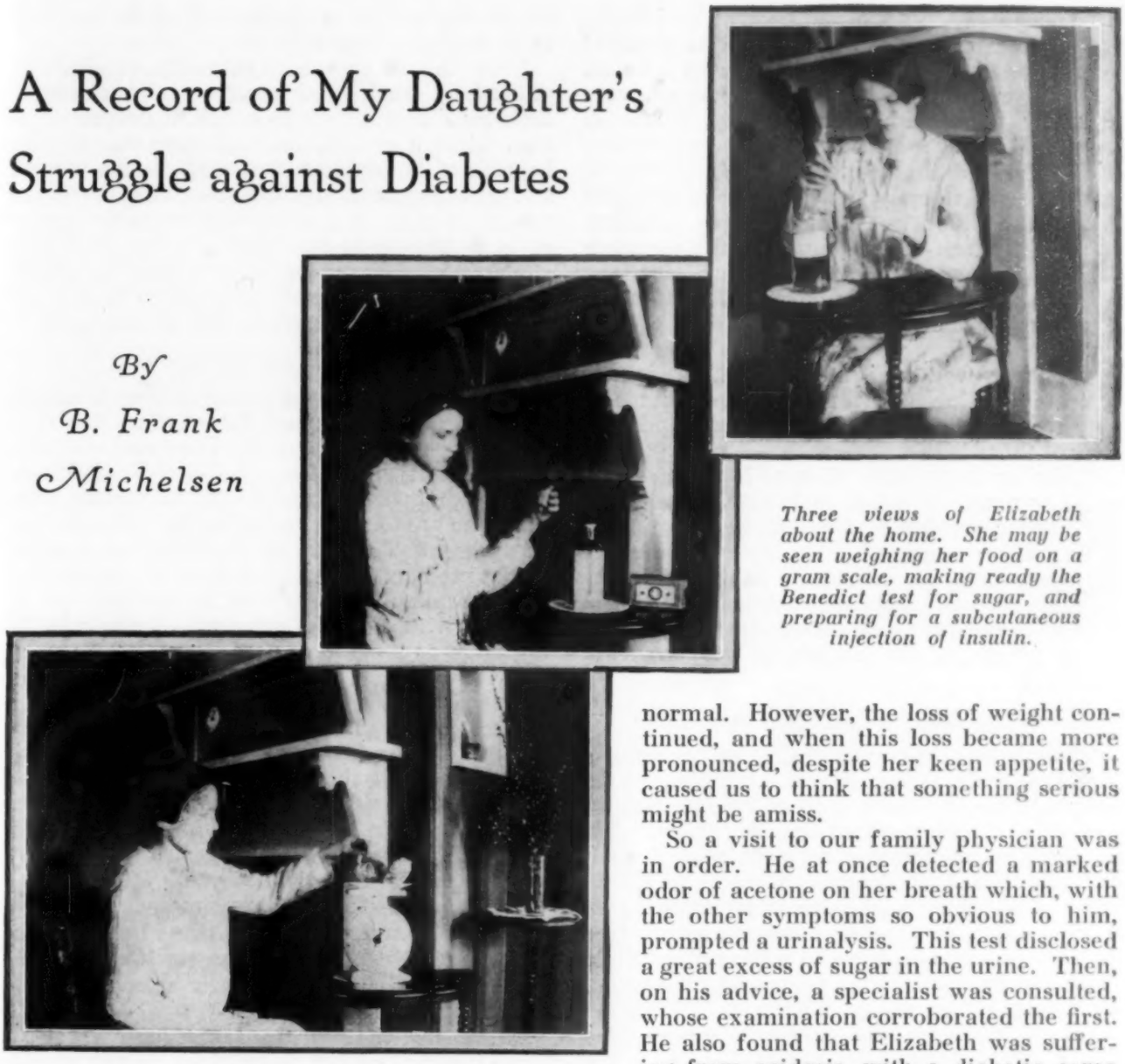
What is diabetes?

It is one of the oldest diseases known to man. Yet, despite its long history, it was not until the year 1899 that Minkowski found the seat of the trouble to be located in the pancreas, a small gland connected with the digestive system. This gland contains a group of about a million tiny cells resembling islands; they are known as the islands of Langerhans, because they were first observed by Paul Langerhans of Berlin about sixty years ago. The special function of these cells is the preparation of a substance called insulin. This secretion controls the digestion of sugar and starchy food. However, whenever these island-like cells fail to function properly, the ability of the system to assimilate such kinds of food is more or less decreased, and diabetes mellitus, commonly called sugar diabetes, results.

Insulin was discovered in 1921 by Dr. F. G. Banting, aided by C. H. Best, a medical student at that time. It is an extract of the islands of Langerhans, which these young men first obtained from a dog. This life-giving fluid is now obtained from the pancreas of cattle and hogs. When injected under the skin this solution will enable a diabetic patient to assimilate

A Record of My Daughter's Struggle against Diabetes

By B. Frank Michelsen



Three views of Elizabeth about the home. She may be seen weighing her food on a gram scale, making ready the Benedict test for sugar, and preparing for a subcutaneous injection of insulin.

from one to two additional grams of carbohydrate for each unit of insulin so taken.

In view of the fact that diabetes readily and favorably responds to insulin treatment, it is obvious that the timely discovery of this disease will be of great advantage to the patient. So, first of all, I wish to give the symptoms that my daughter displayed in order that their significance may be realized should they be manifested by others.

The first indication that all was not well with Elizabeth was a loss of weight. Then, too, her appetite could not be appeased. She next began to drink much water, and urination was frequent. Her lips turned cherry red. The latter condition undoubtedly deceived us more than anything else, for we thought that such high color indicated a generous supply of iron in her blood. As a matter of fact, we now know that such color shows that the blood sugar is above normal. However, the loss of weight continued, and when this loss became more pronounced, despite her keen appetite, it caused us to think that something serious might be amiss.

So a visit to our family physician was in order. He at once detected a marked odor of acetone on her breath which, with the other symptoms so obvious to him, prompted a urinalysis. This test disclosed a great excess of sugar in the urine. Then, on his advice, a specialist was consulted, whose examination corroborated the first. He also found that Elizabeth was suffering from acidosis, with a diabetic coma imminent. Without delay we began the battle that has made normal life possible for her.

At the suggestion of the specialist, I took Elizabeth to a hospital to have her diet regulated and her blood sugar brought back to normal. Thanks to insulin and the expert care she received at this institution, she was back home again at the end of three weeks, sugar free, and on a good maintenance diet consisting of 1,525 calories a day.

However, I shall never forget that May Day morning in 1925 when we set out for the hospital. Never did a soldier go over the top with more courage than Elizabeth exhibited on that momentous occasion. She was 10 years and 15 days old at that time. Her weight was 56 pounds, which because of her height of 56 inches meant that she was 22 pounds underweight. Yet, despite her weakened condition, she insisted that she was going to the hospital,

not as a patient, but simply to be trained in the proper care of herself. Not for one moment would she admit that she felt the least bit sick.

At the very outset when we, her parents, were naturally filled with great anxiety, Elizabeth proved that she possessed the outstanding quality needed in the successful treatment of this disease; namely, courage. Nor has she lacked the other two indispensable qualities, honesty and self-control, upon which so much depends if good results are to be obtained.

To be deprived suddenly of eating as much of and what one pleases and to be put upon a rigid diet, with no sweets allowed, has more than once proved the Waterloo of those diabetic patients who lack the courage and fortitude to play the game. However, in honesty and self-control there is life.

Probably in no other disease is there such a pressing need for a thorough understanding of the proper treatment for and by the patient and by those responsible for his care. Meticulous care must be constantly exercised in the administration of insulin and a proper diet, for, even with the advent of insulin, proper diet still bulks large in the successful treatment of diabetes.

What Insulin and Diet Will Do

Though Elizabeth was losing at the rate of 3 pounds a day when she was admitted to the hospital, she showed a gain of 2 pounds at the end of the first week at this institution. She gained another pound during the second week. When she was discharged at the end of the third week, her total gain was found to be 4¼ pounds; and she had become sugar free. This shows what insulin and proper diet will do.

By the first of August her weight was up to 68 pounds. This meant a gain of 12¼ pounds since the beginning of insulin treatment three months earlier. Today, three years and a half later, her weight is 91 pounds, a net gain of 35 pounds. She is now a bit under normal weight for her age and height; however, this is considered to be the best policy for a diabetic.

The reason for such a policy may be seen in the fact that the typical diabetic patient is one who is or has been overweight. Statistics show that 90 per cent of the million or more sufferers from diabetes in the United States today were too fat or else inclined to obesity, while only 10 per cent were underweight.

The fat person is usually one who is easy going and not given to physical exercise. Therein probably lies one reason why such a person is prone to develop diabetes. Most of the sugar derived from food that is eaten goes to the muscles of the body to provide the necessary energy to do the day's work. Moreover, in order to use up the sugar so supplied, muscular activity is essential. Hence, disuse of the muscles would seem to have a direct bearing on the cause of this disease.

Even the 10 per cent minority of diabetic patients, though underweight, may attribute their condition in part to a lack of proper exercise, while a certain eminent specialist in diabetes is of the opinion that a strenuous mental life may also be of significance. That the latter condition may be a direct factor in the cause of this disease is indicated by the fact that students who have led their classes in school have been known to develop diabetes, though underweight. My daughter was of this type.

Ways to Avoid Diabetes

In the light of these observations, it seems logical to point out several obvious ways in which parents may be able to forestall this disease both in themselves and in their children.

Since diabetes often accompanies obesity, persons who are too fat should reduce. This should be undertaken only under the direction of competent medical authority so that the proper diet to accomplish this end may be advised.

Then, with disuse of muscles seemingly bulking large as a cause of this disease, daily exercise for both fat and lean would seem to be essential. Walking is considered to be one of the best forms of exercise. Golf, tramps in the woods, walking to school or to work are several ways in which this highly beneficial exercise may be indulged. Then, of course, there are gymnasiums in every community in which healthful exercises under physical instructors may be engaged in by both young and old.

Persons who make strenuous use of their intellects should make a serious effort to relax a bit, to get out in the open as much as possible, and, above all, to exercise their muscles as well as their brains.

However, whether the individual is fat or lean, brilliant or not so brilliant, young or old, an annual examination by the family physician of the heart, lungs, blood pressure and urine would not only be a great boon for disease prevention in general but would make for the prevention or timely discovery of diabetes in particular.

"But will insulin effect a cure, should such an examination disclose a relative or absolute diabetic condition?" is the first question that probably will arise.

It is too soon after the discovery of insulin to give a definite answer. In my daughter's case, insulin treatments promptly checked the downward course of the disease, and she has been on the mend ever since the treatments began. Moreover, this has been the experience of many others according to information that I have received from several specialists with whom I have discussed the matter. So far as her diabetes is concerned, if my daughter continues to

live a well regulated life, even though insulin treatments have to be kept up indefinitely, her expectancy of life is better than average.

To quote an eminent authority: "Many of my patients have actually lived longer than would have been expected of them had they been normal, healthy people, and far longer than their similar fat friends whose obesity led to their death by way of the heart or kidneys."

However, with most diabetic patients the islands of Langerhans in the pancreas are only partially diseased, while the healthy cells are able to produce insulin, which makes it possible to assimilate a certain amount of food. Whenever there is too great a deficiency of insulin secreted by the ailing pancreas, however, hypodermic injections of this life-giving fluid are needed to make up such a deficiency. Then as nature repairs the injured cells, in whole or in part, the amount of insulin administered may be reduced in proportion.

Acidosis has always been a serious problem in the treatment of diabetes. With the advent of insulin, hypoglycemia, which is caused by the lowering of the blood sugar below normal due to an overdose of insulin, is another contingency to guard against.

Hypoglycemia Develops

A glass of orange juice quickly corrected the latter condition with Elizabeth on one occasion. More heroic measures were needed at a subsequent time, however. This was largely due to the fact that she was too good a patient and did not complain about how she was feeling. Had she done so, another glass of orange juice would then have brought her blood sugar up to normal. I was visiting her at the time, and although I noticed that she was a bit pale, I did not realize the significance of such a symptom. Even as I was leaving the hospital she told me that she felt all right and uttered her usual plaintive farewell phrase, "Come tomorrow."

However, tomorrow almost did not come for her. For the hypoglycemia had been rapidly progressing during my short visit. When I left her she at once sought out the head nurse and asked permission to go to bed. This had no sooner been accomplished than Elizabeth lapsed into unconsciousness. An emergency call was put in for her specialist, and when he arrived Elizabeth's pulse was feebly beating about 36 beats to the minute. He at once injected a sterile solution of glucose into a vein in her arm. A moment later she came back, almost from the dead. As she opened her eyes, her first words were, "I want my supper."

Truly a miracle had been wrought!

This grave incident illustrates how imperative it is for a diabetic patient promptly to report any feeling of uneasiness. Only twice since that memorable occasion has Elizabeth felt nervous and weak, and both of these times she has quickly told how she was feeling. These attacks came just prior to mealtime, and a portion of her regular diet was all that was needed to bring the color back to her cheeks.

Guarding against Acidosis

The other symptom to be constantly on guard against is acid intoxication, or acidosis. Such a condition caused us great concern during the Christmas season of 1925 when Elizabeth had bronchitis. Nausea from the phlegm in the back of her throat caused her to lose her luncheon one afternoon. She did not have any dinner that night. So, in the light of our experience with hypoglycemia, I did not dare to give her the usual dose of insulin.

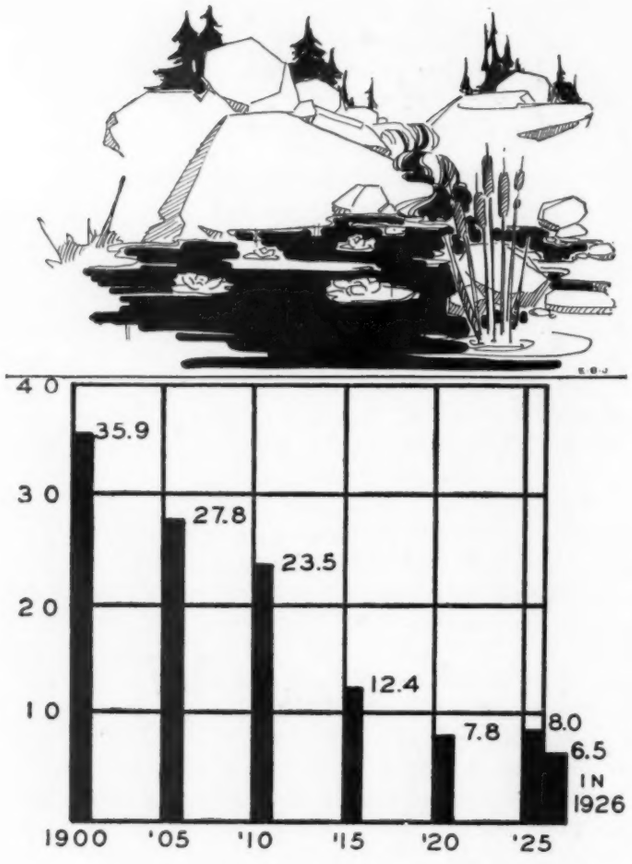
The following morning her urinalysis was four-plus, which indicated a great excess of sugar. This was due to the fact that her system demanded nourishment and had called upon the fat in her body to meet this need. This, together with the lack of insulin and carbohydrate the night before, allowed acid poisoning to develop in an alarmingly short time.

Even though she had only about half of her breakfast the next morning, nausea, this time from the acidosis that was stealing over her, caused her to lose what she had eaten at 11 o'clock. At that time there was a pronounced odor of acetone on her breath, her face became flushed, and her eyes red. There was a slight rise in temperature.

I at once called our physician, and he ordered five units of insulin and 25 Gm. of carbohydrate, which was obtained from 250 Gm. of orange juice. By 5 o'clock that afternoon the acidosis had disappeared, her temperature was back to normal and a urinalysis was negative (sugar free).

From this experience I learned that when a meal is to be omitted under such circumstances, the usual dose of insulin should still be given, and it is vitally important that carbohydrate in some form should be administered. The latter is needed to enable the body to assimilate the fat instead of letting it burn only to the stage of fatty acids, which are poisonous to the system and which speedily lead to diabetic coma with fatal results. The insulin, of course, is needed to help burn the carbohydrate.

By being constantly on the alert to detect these two conditions, hypoglycemia and acidosis, which may steal so surreptitiously on a patient, and by promptly resorting to the simple antidotes when occasion demands, diabetes may now be controlled in the home, even as it is now being controlled in the best hospitals. However, periodic visits to a qualified specialist are essential. Then, with the rational use of this blessed discovery, may the diabetic be enabled to live a useful life.



The falling typhoid death rate in the United States registration area.

A Life and

By Thurman

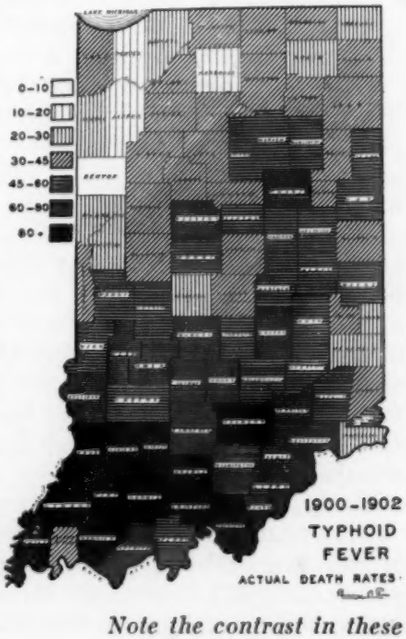
THE devil can cite scripture for his purpose, and any one can find statistics to prove almost anything that he wishes. Mr. A proves by his data that venereal disease, for example, is rapidly increasing, and that the young folk are nearly all infected and are generally worthless. Dr. B proves by other figures that these diseases are decreasing and that everything is lovely. As a matter of fact no one knows about the real prevalence of venereal disease even in the present; and far, far less about it in the past. Yet both sides use figures and feel that since they have cited statistics they have proved this or that.

Accurate vital statistics are of the greatest possible importance to a nation, a state or a community. No business enterprise can expect to succeed unless it keeps accurate books of all its transactions. The officers and directors must know which departments are operating at a profit or otherwise, else they will not be able to correct errors in organization and emulate in less successful branches the practices of more efficient departments. Inventories must be made at regular intervals, balances struck and plans outlined from the data so obtained.

The uses of vital statistics are legion. Life insurance—that greatest of all protective agencies and an enormous business in itself—depends absolutely on such reliable information. Health departments of city and state are able to check the various phases of their work by this means. They are able to determine the efficiency of water purification, of the pasteurization of milk, of vaccination, of maternal and child welfare work and a score of other activities in which they are interested. Medical and public health research are directed by the finger of statistics into fields in which more knowledge is needed.

Water companies are interested in the typhoid death rates of the cities which they supply; food packing industries must have data on morbidity and mortality from improperly canned foods, from spoiled meat and improper nourishment; milk companies are concerned with infantile death rates. Teachers, lecturers, authors, preachers, legislators, philanthropists, economists, sociologists and indeed every thinking person must some time or another have need of accurate data on some vital subject.

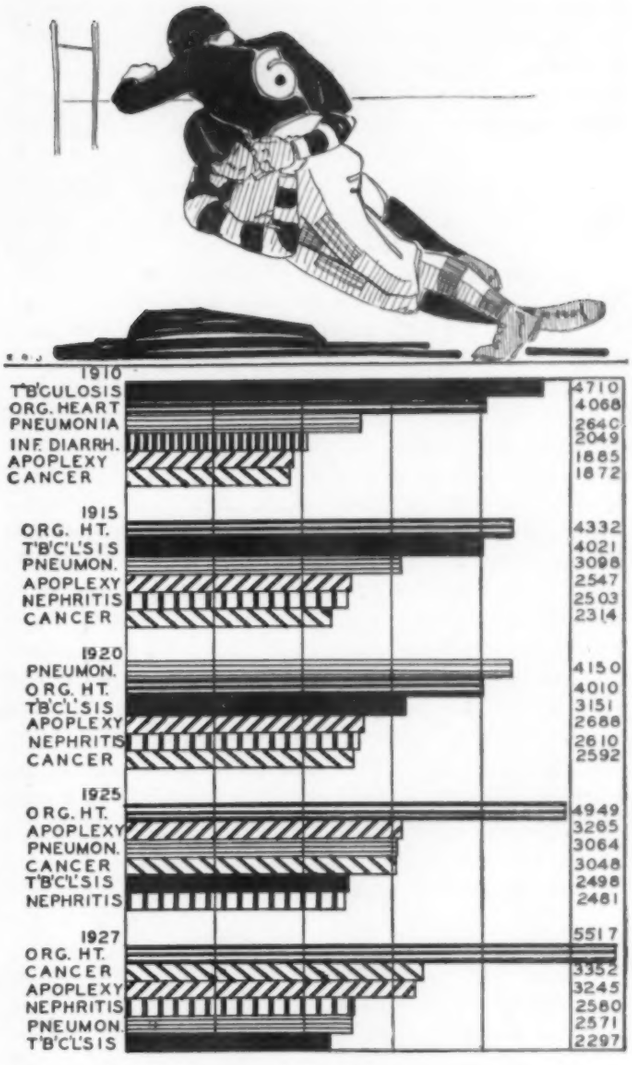
Let us therefore look into the means of attaining this most valuable end. Why are vital statistics untrustworthy when they are untrustworthy? What are the underlying causes for distrust of statistics? Every one



Note the contrast in these

Death Matter

B. Rice



The changing cause of death in Indiana. Every yard gained or lost in this great struggle means a thousand lives.

has heard it said that "figures won't lie, but liars will figure," and that there are said to be three progressive degrees in the great fraternal organization known as the Ananias Club: to wit, liars, — liars, and statisticians. Is it possible to get better statistics and to use them with more intelligence?

Contradictory results obtained in the compilation and use of statistical data are roughly due to the following causes:

1. Errors, more or less avoidable, in the original data.
2. Clerical errors in the collection and compilation of the same.
3. Errors on the part of statistical experts and near-experts in adjudging the value of the data and in determining the form that the statistics made from the original data should take.
4. Misinterpretations of the meaning of the data by those who are using them.
5. Errors in graphic representation of figures.
6. Misquoting of figures when the official record of the same is not at hand.
7. Errors arising rarely from deliberate misrepresentation of known facts but more often from the overzealous advocacy of some pet theory or cause.

two typhoid maps of Indiana.

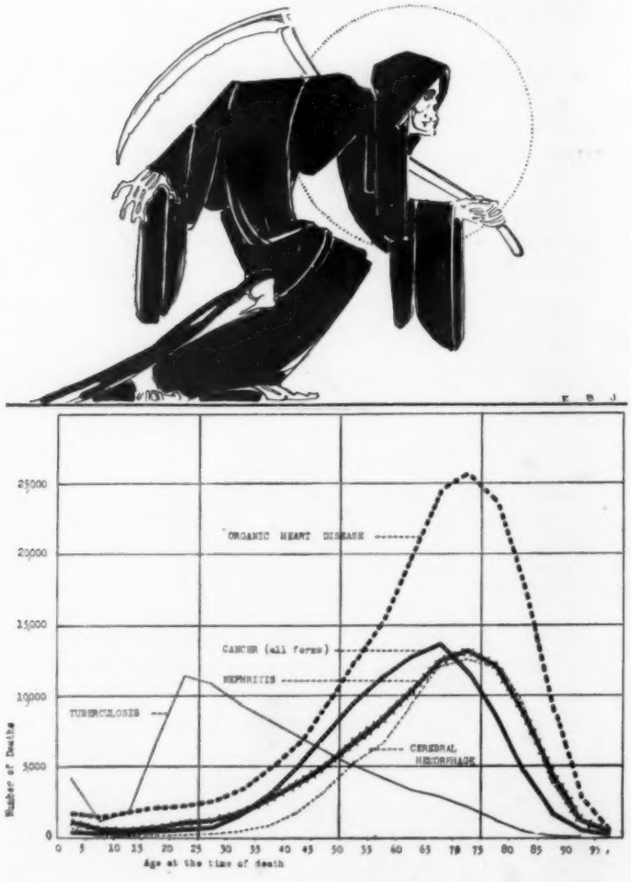
These various sources of error will be discussed somewhat more fully in this and the articles to follow. It is essential that these weak spots in the theory and practice of the accurate and scientific collection of source material be either strengthened or eliminated.

Two other misconceptions need to be corrected: first, that vital statistics are necessarily technical and mathematical, requiring a knowledge of formulas, calculus, logarithms and the Lord knows what; second, that the whole subject is extraordinarily dry and uninteresting.

As to the first of these misconceptions we must admit that the experts who arrange the data and figure out all sorts of norms, probable errors, constants, averages, means and modes must know their higher mathematics. Few persons who may need to look up the life expectancy of a man of 36 could actually figure out that table, nor need they do so. We drive automobiles while we are ignorant of the mathematics represented in the motor; we can tell time accurately enough for our purposes by simply looking at our watches and letting the

chaps in the astronomical laboratory fuss over the split seconds by which they set their clocks. It is fine that some one knows his "math" well enough to do this work, but the rest of us can understand all that we need to understand without it.

Of course some fundamental things must be understood by every one who expects to use statistics accurately. A knowledge of the basis on which the figures are compiled is essential. Recently I was amazed to hear a health lecturer say that in the old days five times as many persons died of typhoid fever as are now dying of all causes in the same community. He had his figures to show us, but I hadn't the heart to expose his ignorance. He had found figures for 1900 showing that the typhoid death rate was about 70 per annum, while the 1925 general death rate for that community was about 14. There was the official record to prove his argument. But the poor sucker did not know that specific rates are based on 100,000 population, while the general rate is based on 1,000 population. If both rates had been figured on the first basis the figures would have been 70 and 1,400 respectively; if on the latter rate they would have been 0.7 and 14 respectively. In other countries 10,000 is often taken as a basis, or even more frequently 1,000,000, and this must of course be understood, else we arrive at the most absurd conclusions.



The more common causes of death in the United States registration area in 1925.

The speaker with his phoney figures impressed his audience but not as he intended. They went away with a strengthened conviction that figures cannot be trusted, because most of them had too much sense to believe that five times as many formerly died of typhoid as now die of all causes.

If the reader is intelligent and possesses a small fund of information it is a comparatively simple matter to present data to him in such a way that he can understand and use them for the ordinary purposes to which such material may be put. Pertinent information of the kind found in vital statistics should be available and usable.

Concerning the charge that vital statistics are dry we marvel greatly. "Mrs. Jones has a baby, born this morning." "Sam Wilkins died last night of pneumonia." "The doctor says that Aunt Mary has tuberculosis." Is there anything dry about such information? Indeed not, if you happen to know Mrs. Jones, or Sam Wilkins or Aunt Mary. And there is nothing dry about these vital statistics if you are interested at all in the great struggle of mankind against death and disease, as every one should be.

The tuberculosis death rate in a certain state is 81.3 (1925), which for that particular state means that 2,551 poor mortals like yourself and myself died of this terrible disease. Enough people to make a town of fair size died in a single year of a single disease. Think of the suffering, the sorrow, the worry, the despair, the expense, the plans broken, the homes shattered, and the orphans left by 2,551 such deaths. Heaven help us if such information is dry, while the bulletins of the box scores of ball games draw great crowds.

To be sure such information might be made morbid but there is no need to do so. Remember rather that the rate which is now 81.3 was formerly 200, or in all probability as much as 500, and by this estimate from five to ten thousand are now living who would have died horribly within the last year but for the advance of science. Besides there is always the alluring prospect of being able to push that 81.3 down to lower and lower levels.

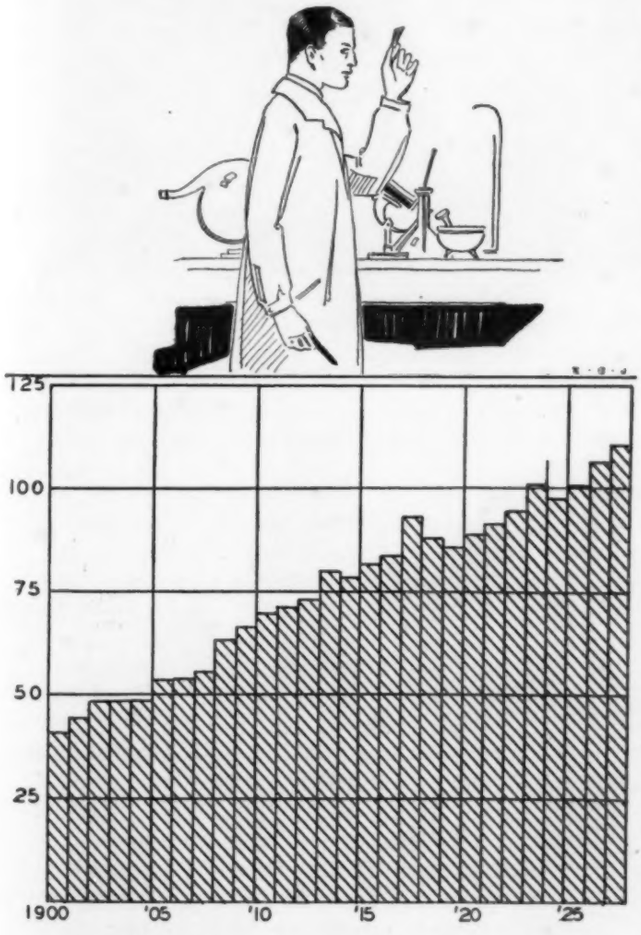
In terms of the popular sport let us suppose that we are bucking the line on the 81 yard line, and it's first down with 10 yards to go. With line buck and forward pass, with end run and off tackle smash we are going to march down the field for a touchdown. Dry? Exaggeration? Indeed it is no exaggeration. Since 1850 the tuberculosis death rate has been beaten down from about 500 to less than 100, and that means the saving of thousands, even hundreds of thousands, of useful, happy lives and the prevention of infinite misery. Dry and dull? Why man,

here is a football game of such stupendous magnitude that it staggers the imagination, and every yard gained or lost means a thousand lives.

Fairly reliable figures inform us that 60,000,000 persons lost their lives as a result of smallpox in the eighteenth century in Europe alone. That choice little bit of gossip should go a long way toward making us satisfied with the good new twentieth century. Read the story of the Black Death or of the Asiatic cholera in the "good old days," and be thankful for the security that is assured us by a perusal of the recent statistics of death caused by the same diseases.

Ask some old-time physician who has stood helpless while babies have choked of diphtheria if he gets a kick out of a graph that represents the decline in diphtheria death rates. Ask a parent whose child has just been exposed to diphtheria if such a graph is dry and stale.

What a fight it has been to beat back typhoid to the place that it now occupies! Thousands, yes, millions of men and women have fought in this great Armageddon, and the field is covered with the fallen, but we are in the very shadow of the goal, and still going strong. Look at the fall in the scarlet fever graph! See the yellow fever curve hit the base line! Yea! Rah! Koch, Pasteur, von Behring! Nine rah's for Whipple, Sedgewick, Walter Reed and the whole bunch! Nine for the team, the whole fine team!



Cancer death rates in Indiana. The values indicated represent the number of deaths from cancer in all forms per 100,000 population per year. The figures are somewhat misleading in that a much larger part of the population now reaches the cancer age than was formerly the case.

Oh, but you say, "That's all very fine, but it isn't vital statistics." Well, it is mighty close to it. Theoretically the game is played for sport and exercise, but it's the score on the score board and in the morning paper that counts, and that if you please is statistics.

About the only things that count in life are births, marriages, sickness that may cause us to miss our mark, and death, and these are the very things from which vital statistics are made. Are the right kind of babies being born in sufficient number to carry on our wonderful institutions, our country, our religion and our civilization? Vital statistics only can answer.

The home is the source of every good thing; the family is the unit of society. Are folk marrying as they should? Are they bearing children as they should? To what extent is divorce disrupting the American home? What are the causes of domestic incompatibility and the disruption of the home? Vital statistics and nothing else can answer these most fundamental problems.

To what extent are we successful in the attack against disease and death, the ancient enemies of the human race? Are we gaining against them? Why are the degenerative diseases increasing? What can be done about it? Will the carloads of tonsils that have been removed check the great increase in organic heart disease that has been observed in recent years? Let us look at the vital statistics and see where next to strike in order to lengthen human life and to increase human happiness.

Many good people suppose that in the old days folk didn't have tonsils and appendicitis and venereal disease. They had them just as we do, but no account was kept of them and so they have been forgotten. People lived, in this respect at least, like cattle (not registered cattle), but nowadays books are kept and data are gathered and coordinated so that the attack against the common enemy may be carefully planned and carried out. It is interesting to know that only since careful records have been kept has consistent gain in this fight against disease been observed.

Vital statistics dry and stale? No indeed, they are not, when we have them properly arranged and readily accessible, and when we know how to use them.

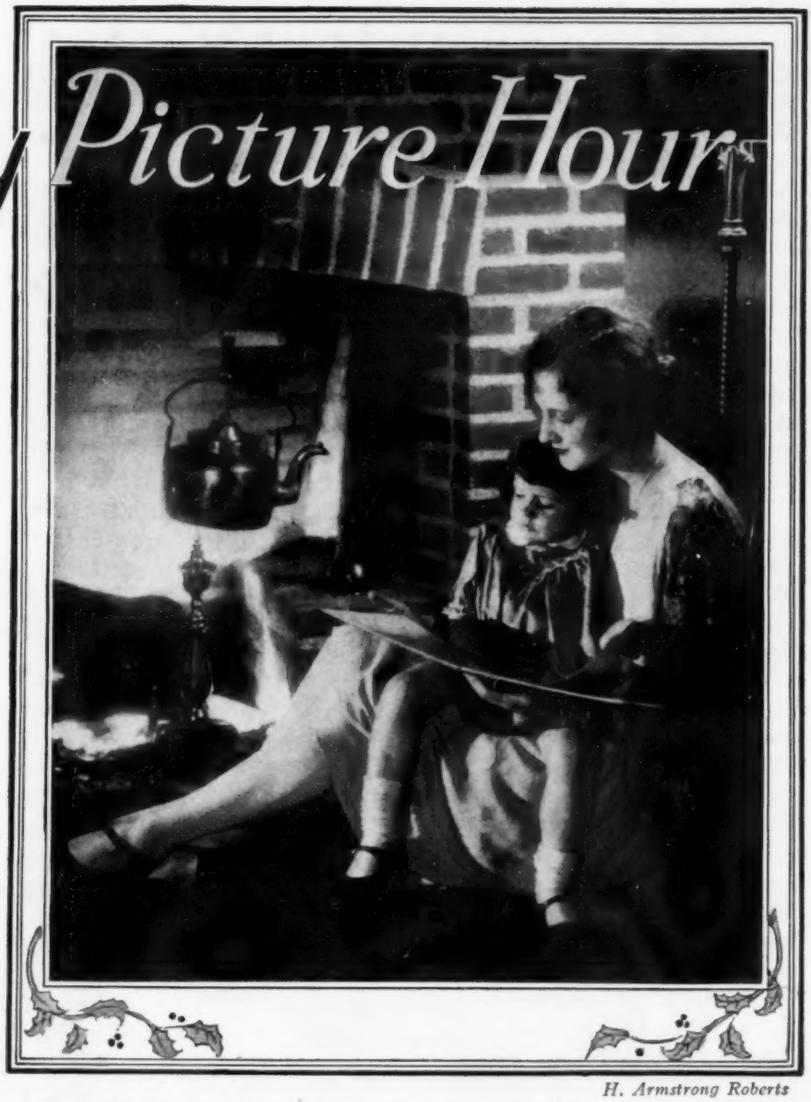
(Part II will appear in the January issue.)

The Daily Picture Hour

A Christmas Gift Suggestion

By

Persis Leger



H. Armstrong Roberts

The twilight rest hour may become an intimate parent-and-child hour, a time for peace and affection.

AS NOISE and speed play a crescendo on life's keyboard there is an increasing strain on the human nervous system. In the case of frail children this strain is an evil that often has dire consequences.

Parents who wish to protect their children's delicate nerves from annoying stimulation may find it worth while to adopt a daily picture hour—a single precious hour toward the close of day dedicated to quietude and relaxation.

This twilight rest hour may become an intimate parent-and-child hour, a time for peace and affection. Or perhaps it may be regarded as an exclusive Daddy hour, the father's one and perhaps only opportunity of being with his child.

People must journey far today in quest of silence. In order to obtain this one bit of peace it may be necessary to close all the windows if one happens to live in a neighborhood filled with sounds from automobiles, trains, street cars, crying babies and radios.

Just as an evening moving picture show occasionally affords needed relaxation for adults who are too weary to sleep, read or even think; so does the picture hour afford relaxation for the weary child. When night draws near and the child looks dreamily at his favorite colored prints, he is being unconsciously led from a period of drowsiness to one of sweet sleep. An exciting bedtime story, on the other hand, frequently does just the opposite; it dispels this natural drowsiness, a stepping stone to sleep, and thereby postpones sleep instead of inducing it.

At the end of the day the child is often physically and mentally incapacitated. He does not have complete control of himself and is not morally responsible for his actions; therefore, it is as cruel to punish a tired child as it is to punish a sick child. The traits that misinformed adults attribute to naughtiness, obstinacy, stupidity or fretfulness are in most cases only symptoms of fatigue that can be prevented by getting the child to bed before fatigue possesses him or by prolonging his usual number of sleeping hours.

An appropriate time to begin a daily picture hour is on Christmas day, on the birthday of Him who loved all little children and who besought mankind to protect them in their

helplessness. The child who finds beneath his Christmas tree a glorified scrapbook will be a lucky child indeed. For a hand-made picture book into which some one has put hours of patient labor just for a certain beloved child is a gift that gives more than momentary pleasure.

Some of these present-day books are gems of craftsmanship, which range in size from diminutive volumes to those of large dimensions.

An ingenious young mother who has a son of eighteen months could not find a picture book in the market that was small enough to fit her child's hands. So she devised a fascinating little book which she describes in these words:

Tiny Book for Tiny Hands

"I bought a vest-pocket memorandum book for 15 cents, 2½ by 4 inches. The color on the cover was not fast, so I pasted some heavy gold paper over it, arranged gay designs in the corners, and mounted a small photo of my son in the center of the front cover. Under the picture I wrote his name and address and the words, 'His Book.' A coat of shellac made the cover washable. For months I collected tiny colored pictures, having simple lines and but little detail, of subjects that seemed to interest him.

"A single picture was placed on each right-hand page. The page at the left was blank, so that the child's eyes might focus on the one picture. There were many single objects, such as an orange, ball, doll, car. As the child looked at these I helped him to pronounce the words and thus the book was an aid in increasing his vocabulary."

This mother says that the tiny book is a boon in times of stress. When the baby refuses to take his afternoon nap, from one to three o'clock, the little pictures help to soothe him to sleep. When he becomes restless while waiting at places or while riding on street car or train, all the mother has to do is to produce the magic little scrapbook from her hand bag.

Another mother chose to make a book slightly larger, one of postal card size. She collected oilettes (imitation oil paintings printed on postal cards) and sets of beautifully colored postal cards from museums and art galleries. She enlisted the aid of friends who went abroad and they made several unique contributions. Finally she had a collection that delighted her 7 year old daughter. The cards were mounted on stiff kindergarten paper of different colors. The pages were an inch larger than the cards so that a margin surrounded the picture like a frame. The page for each picture matched the predominating color note in the design. Thus an English rose garden was mounted on a rose colored page. This plan brought about a most artistic ensemble, which proved to be a lesson for the child in color harmony. Scrapbooks of olden times were a confusing and inartistic hodgepodge but in these modern picture books ugliness and disorder have no place.

An Oil Cloth Scrapbook

A recent visit to the home of a boy of 2 years revealed a third size of scrapbook that is productive of great joy. Immediately after the evening meal, John went up to his father and began pulling his trouser legs to get attention. He said plaintively, "Bookie! Bookie! Daddy, John wants bookie now!"

In a moment John and his father were a picture of contentment as they rested in a large armchair and the father held the book while John gazed, wide eyed and fascinated first by one picture and then by another.

The book was a large one, about 10 by 12 inches. It had brilliant covers of yellow oil-

H. Armstrong Roberts

The picture book habit may well endure from infancy through life and lead to the collecting of rare prints. The child of school age will take a keen interest in maps and historical pictures.

On Christmas Morning

Ewing Galloway

OF ALL the fascinating array of gifts that will greet him on Christmas morning, none may become a more comforting companion to the young master of the household than an attractive scrapbook.

cloth laced together with a black silk cord. In this book also the color harmony plan was used and the pages of heavy cardboard were covered with kindergarten paper of many hues. It was loose-leaf style, so that the book might grow with the child and as certain pictures were outgrown or thumbed beyond recognition new ones might be added.

There are innumerable sources of supply for artistic colored prints that delight and inform the child. In almost every first class magazine fine samples of color printing may be found. Home, art and travel magazines have a particularly abundant supply. Unusual views may be found in railroad folders, flower and seed catalogues, department store publications and in other commercial advertising literature that come into the home.

A beautiful map in colors is an educational addition for any scrapbook and it is surprising how early a child develops an interest in maps. One little lad of 3 takes great pride in pointing out certain places on a map and says with enthusiasm, "Here's Greenland; here's Chicago; here's Grandma's house, and here's us!"

What Pictures to Select

What pictures shall we select? It is best to have purposeful pictures that are aimed to help the child in some definite way. One should include a few pictures that will tickle the child's sense of humor, a few that please him because they are pictures of beloved objects, and then an assortment of purposeful prints that tell a story, impart information, teach a moral lesson or stimulate imagination. And one should be sure to include a few truly beautiful prints that breathe an atmosphere of peace and restfulness. There may be a few historical scenes that tend to develop an interest in the past; a few views of other countries that arouse an interest in far-off places. For older children really valuable curios, such as a woodcut or a steel engraving, are decidedly worth while.

To older children who have early developed the picture book habit collecting rare prints becomes a fascinating hobby. This hobby does not stop with adolescence, however, because many a mother and even a grandmother has her own folder in which she has preserved fine prints that have seemed too precious to throw away. One grandmother, whose children have grown up and left the home, is alone a great deal and on a rainy day she receives as much pleasure from her folder of prints as from a visit to an art gallery.

What Not to Include

As an example of what not to put into the glorified scrapbook one may remember a certain book that was given to a little girl on Christmas day many years ago. The book contained frightful pictures of wild animals that gaped at the timid little reader as if they were about to jump out of the book and devour her. The child glanced at a few pages and when she came to a picture of a savage tiger she became so frightened that she closed the book with a bang and never again opened it until twenty years later. The first fear impression was so deep seated that even as an adult this same young lady has a little thrill of fear on seeing the picture tiger. For years the book remained on a top shelf in a closet at the request of the child so that the tiger couldn't jump out.

In spite of the pressure of enlightened public opinion against books with such illustrations, there are still many such books on the market, and many of them hide behind the misleading title of children's classics. An intelligent young librarian was scolding a friend of hers, the mother of a young child, for buying the wrong type of books. The librarian offered to get the right kind and in a few days presented a de luxe volume of pictures and stories. The mother sighed her gratitude and said, "How wonderful to have a book for Bobby that is exactly right!"

Then she opened the book, and on the first page was a picture of a hideous two-headed giant that would send a shiver down the spine of an adult. Thus even the librarian was ensnared by the subtitle, "Children's Classics."

When Christmas night comes and the lights are low, may many a child rest in the lap of a parent and slowly turn the pages of a beautiful new book, a Christmas scrapbook made especially for him. And may his sleepy perusal of lovely pictures enable him more easily to bridge the gap that lies between the wide-awake world of play and the realm of dreams.

Training the Child's

A CHILD without an emotion is inert and lifeless. There is an emotional satisfaction in sleep and rest even as in play and work. The emotions or the feelings are at once a preparation for activity and the result of activity. They are bound up in every movement of the muscle or brain, even as heat is an essential part of chemical change.

Happy is the child who possesses an outstanding capability of some sort.

The emotions determine the spice and flavor of life. They determine whether life shall yield zest or weariness. They flow forth in love and hate, in anxiety and sorrow, in wonderment and despair, in the recognition of pleasures and pains. The child does not always know how to flavor his own life, so perhaps at times the emotional condiments are not satisfactory to him just as at other times they are unsatisfactory to those about him. It is obvious that the variable emotional life of a child is bound up in the fact that he is a moving, dynamic creature who has to find himself through new experiences in a world strangely organized by those who have outgrown childhood.

The child at birth possesses certain tendencies to act, to think and to feel. A tremendous nervous machinery exists, to be improved and completed or marred and disturbed through growth, development and exposure to practical living. This machinery for emotional life has an automatic activity. It responds to various types of stimulation. At the very time of birth it is able to reveal sensitiveness to fears as of noises or of loss of support; rage when its movements are hindered, and love when it is satisfied by attention.

How differently a boy expresses himself on a baseball field and in Sunday school.

These merely suggest the potentials of an equipment that is to be utilized as the child grows and develops and enters into various phases of active organic living. The inner forces generated by this machinery tend to express themselves and this preparation for movement is termed an emotion. When the movement has been made, the feeling phase of it again constitutes a stimulation to further motion. Hence when we laugh it is easy to keep on laughing and when we cry it is not always easy to stop.

Emotions, however, like all other functions of a growing body, must be trained for social living. Children are not isolated; they live in the world and must become accustomed to making adjustments to people and to things in a manner that will insure some sense of personal pleasure and satisfaction. Hence the emotions are subject to training in various ways as children grow, and the laws relating to their train-

Emotions

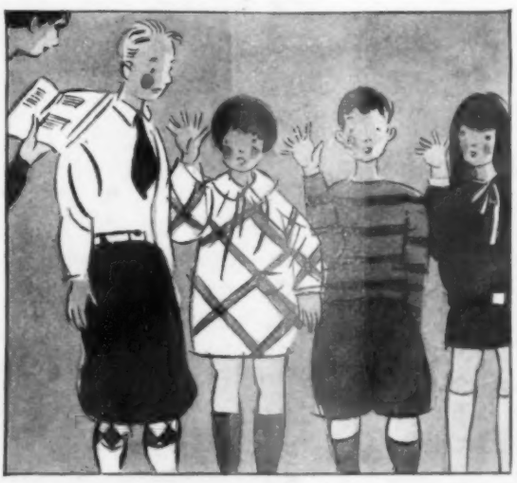
By Ira S. Wile

What a difference in the mental state of a girl when she is unwillingly washing dishes and when she is dancing merrily.

ing are not particularly different from those involved in all processes of learning.

Children learn to develop control and to guide their emotions by imitation of the patterns of behavior that they see around them, in the home, at the school, on the playground and in the Sunday school. Children respond to numerous influences that arise from direct and indirect suggestion, as it is provided by their parents and relatives, by their readings in the press and magazines, through their observation of life around them, and during their absorption at the movies and the theaters. The emotional life of the child is constantly evolving with ever new influences definite and indefinite tending to mold it for better or for worse.

The emotional characters of children are termed good or bad according to values that are established by society. Anger and rage may be virtues as well as vices, as, for example, when they are transformed into righteous indignation. Fighting has different meanings when it is part of gang life and part of a patriotic defensive service. To find pleasure in isolation and to appear coldly antisocial is not deemed as satisfactory when indolence accompanies it as when the isolation is for the purpose of useful study and research. The rollicking roisterer, constantly annoying, is transformed into a useful person when he applies his gay mood to cheerful entertainment of others.



There is emotional unhappiness in the oversized boy in a low grade at school.

It is evident that all emotions are in a sense good or bad depending on the motives that give rise to them or the goals toward which they are directed. Unfortunately, society too often demands of the child a degree of emotional control that is difficult for his mature elders. The emotional life of the child is only the material out of which the emotions of the adults are to flow.

The standard of youthful emotions is always determined by the age in which one lives and the people with whom one lives. The binding social force in the emotional life of the child arises from some sense of personal pleasure and satisfaction through accepting the standards of the family and the group to which the child belongs.

Emotions, however, are not isolated parts of a personality. The child is not merely a set of bones and muscles and organized systems that perform certain functions; nor is he simply an intellectual machine. He is an emotional dynamo and this dynamo helps generate the forces of life and

in turn is stimulated, depressed or modified otherwise by the actual movement of these living forces.

The emotions are related to some simple physical affairs as, for example, consciousness of one's own size or strength or appearance. The emotional distress of a homely child sometimes beggars description. The emotional unhappiness of an oversized boy in a low grade is far greater than that of the small child in an upper grade. The peevishness, irritability and weepiness that so frequently accompany the beginnings of contagious diseases or other illnesses indicate the close relation between physical ill health and emotional instability. The exaltation, the joyous spirit that goes with the enthusiastic display of athletic prowess bears testimony to the elevation of the spirit that accompanies vital recreational activity. The physical life is bound up in the emotional development of the child. A proper use of physical activity serves to guide the development of favorable emotions, whereas a neglect of this field of activity may lead to forms of indifference, indolence and dissatisfaction.

I have said that the child is more than an intellectual machine; but his intellectual life is none the less bound up with the development of his emotions. One cannot study while grieving, nor is application to school work a simple matter in the presence of pain. On the other hand a high degree of intellectual activity may be a source of comfort and joy, an urge to activity and enthusiasm for school and all that pertains to it, whereas a limited intellectual capacity may give rise to sullenness, irritability, unpleasant school conduct and often to truancy. The sense of success or the sense of failure, dependent not merely on the inherent brain power but on industry and concentration, determines many of the attitudes toward life in school and outside of it.

Every Child Needs Success in School Life

The emotional reaction toward the school, the teacher, the lessons and the home work are of primary importance during the many years of school attendance. Happy is the child who has some outstanding capability, who is creative in art or music, who is skilful in manual training work, who finds a keen delight in mental combat and debate, or who can succeed in solving intricate problems when many others fail. From these arises an emotional reaction that is stimulating and is productive of a light heart and gaiety. Every child should have the emotional satisfaction of some success in school. Even if the success is slight, praise and encouragement should always be given. It matters not in what realm the success may be. Every one enjoys a taste of it and is moved to greater things by reason of its favoring visit.

The child, however, is more than body and intellect. He is a social creature; he is part of the world of people; he is subject to their laws and regulations; he has the advantages or disadvantages of an exposure to a variety of social rules and regulations as to what he should think, when, where and why he should play and work. Out of this social life comes an abundant series of emotional reactions. How differently a boy expresses himself in Sunday school and on the baseball field. What a different attitude of mind is in the girl who is unwillingly washing the dishes as compared with her mental state when she is dancing merrily at a party.

The pressures of social living cause strains within the child and the expression of these strains reveals tellingly the emotions that are entering into character. Hence, the companionships of children, the mode of treatment by those adults about them, the behavior, the ideas, the sentiments and the practices of the parents profoundly affect the emotional life of the child. Not only do the patterns of ugliness, brutality, unkindliness, bossiness and threatening lead to juvenile unhappiness and perverseness of spirit, but children are emotionally affected by their own ideas concerning the rules, laws, ordinances and regulations to which society demands obedience for its own maintenance.

Emotions and Social Living Interdependent

To lose one's temper, to be a tyrant, to be conscious of an inferiority, to seek to escape the realities of life, to lie, to flee from punishment are reactions that are fraught with unpleasant emotional meaning and such tensions are not conducive to the finest form of emotional guidance and control. A willing attitude to face the world as it is, to meet life squarely, to accept the consequences of one's own acts in the right spirit and with the desire to profit by experience, to apply oneself to the art of social living, and to find aid in others brings about a finer degree of emotional stability and helps to create a more adjustable philosophy of living. Thus, to a large extent, the emotions grow out of social living, and to a still further extent social living grows out of the emotional reactions.

Another factor entering into the emotional life of the child is that which grows out of spiritual living. The emotional problems that grow out of the relation of man to his Maker are fraught with useful service. A consciousness of friendly dependence, an identification with divine power, the building up of a sense of spiritual values may frequently be helpful in organizing and centering the emotional life of children. There is a hazard at times in the threat of divine punishment or of penalties of sufferings and tortures incident to what is so

frequently called sin. One must be specially cautious in guiding children so to treat them that they do not develop a constant sense of guilt, of weakness or of falling from grace. An appreciation of spiritual relationships that is constructive in force should not be vitiated by fears and by self-condemnation with consequent emotional distress.

I have merely suggested some elements that enter into the emotional life of the child because, after all, they are so numerous and so complicated that one cannot generalize. A child's entire personality is colored by his emotional reactions. How does he meet persons; how is he affected by situations; how does he respond to pressures; how does he attack obstacles; what sentiments does he reflect; what are his attitudes toward moral principles and toward human causes; with what industry does he apply himself to his school life or his vocational activity? Is he happy; is he sad; does he laugh with the world or at the world; does he weep; does he fight; does he graciously accept; does he shriek; does he act the child or play the man; does he seek companionships and enter into sports or does he seek to hide himself and avoid contacts with his fellows?

Such expressions of personality are reflections of emotional habits and tendencies and are indications of the power of the urges that are within him. They reflect the emotions that grow out of love and hatred, out of fear, out of wonderment, out of self-assertiveness, out of the pleasures and pains that are registered throughout the entire course of his growth and development.

The emotional life of the child is important because through this phase of his personality he exercises his greatest leverage on life; and this leverage on life involves the happiness of himself and often the happiness of all others with whom he comes in contact.

A BAFFLING SEARCH

By
Elizabeth Cole

SINCE the discovery of the tubercle bacillus in 1882 by Robert Koch, a German physician, scientists all over the world have been searching for a cure for tuberculosis. Dr. Koch thought he had found one in tuberculin, which he discovered several years later, and the news was broadcast with rejoicing. Some physicians today use this serum cautiously, but tuberculin is by no means a cure. We have had countless other serums and antitoxins offered by scientists who have been sincere in their beliefs that at last they had found a cure. Spurts of hope, they were, that quickly flickered out.

And yet doctors and scientists are not discouraged. They believe that there is a specific cure for tuberculosis awaiting discovery. Because they believe this so firmly, some of the funds derived from the sale of Christmas Seals each year are devoted to cooperative research work, under the direction of a committee on medical research. This committee at the annual meeting of the National Tuberculosis Association, held in Portland, Ore., last June reported that, as a result of the work in the chemical analysis of the human tubercle bacillus accomplished during the past year, "we are on the threshold of our final journey."

Research work is conducted in the best laboratories throughout the country. Manufacturing plants where enormous quantities of bacteria are being grown for chemical analyses and later for biologic study have contributed generously toward this coordinated research work. One house had 2,000 bottles of tubercle bacilli growing at one time and these had been bred on a carefully composed chemical medium. Universities, colleges and clinics as well as interested laymen and doctors have helped enthusiastically in the work. They all feel that through teamwork the cure for tuberculosis is certain to be discovered eventually. Until a specific or cure has been found, however, it is most important to employ the only known treatment we have found effective so far. That is not a bottled medicine, a pill or a serum—it is the combination of absolute rest to heal the scar tissue, good food, sunshine and fresh air under the direction of a competent physician.

Until the baffling search has been successful, it is necessary for the public to be patient, use the best known methods for cure, and contribute intelligent interest in the search. A timely way to help is to buy and sell the penny Christmas Seals in December.

Longer Lives for

By Frederick

A SERIOUS situation is confronting our country today in the steadily rising death rate from certain diseases. The wholesale killers of the past are not the wholesale killers of today. Smallpox, diphtheria, typhoid fever and the summer diarrheas of babies are being brought under control, though we have not solved the problem of the first three diseases in any final way until they are literally exterminated and their germs become extinct.

The greatest destroyers of today are not acute diseases that drive the sufferer to the doctor at their onset, but insidious chronic diseases that usually give no symptoms in their early stages. Chief among these conditions are diseases of the heart and blood vessels, and cancer. Chronic kidney diseases are also of great importance, and even diabetes, despite the wonderful improvement wrought by the modern dietetic treatment of this disease and by insulin, still kills far too many persons.

Detecting Disease in Early Stage

Since we lack effective vaccines or sanitary measures to prevent these diseases, our chief method of controlling them at present is to detect them in their early stages. Then, if some cause can be found, such as bad teeth or tonsils, it may be remedied. Even when no direct cause is ascertainable, the life of the individual can often be adjusted so as to avoid circumstances that aggravate the trouble. For example, a person with some mild early heart trouble who is working under severe physical or mental strain can often get less arduous work and add years of comfortable existence to his life, but this is all too often impossible unless the trouble is found before he knows he is sick.

The one means we have at present of meeting this situation is by regular periodic health examinations. This fact has been increasingly recognized in the past few years. A number of private organizations and certain life insurance companies have done valuable pioneer educational work in arousing the public to the need of these examinations, but they reach only a relatively small group. Moreover, good as their work has been in many ways, no organization at a distance can have the knowledge of a "health client," as the apparently healthy person is called when he comes for examination, that his own family doctor should have. Every one should have an annual examination by his own doctor.

Examinations Must Be Painstaking

These examinations must be thorough. Often they require far more skill than does the diagnosis of some serious acute illness. A typical pneumonia at its height, for example, with one or more lobes of a lung entirely consolidated, can readily be diagnosed by a senior medical student. The early stages of chronic diseases often tax the diagnostic skill of the most expert. It is not a ten minute job to satisfy oneself that a health client is truly healthy. The majority of people need dental attention, and a large number need glasses. Dentists and oculists must have a large part in this work; indeed, the dentists really led the way in preaching periodic examinations of the mouth, yet how many persons fail to heed their advice until their teeth are sacrificed! The family doctor can do much to improve this situation.

The keeping of records of these examinations is essential. The standard blank form for health examinations, published by the American Medical Association, is helpful.

Health examinations are useful at all ages. Every children's specialist teaches the value of frequent examinations of infants and preschool children to give the best chance for full normal development and growth. The medical inspection of school children has long since passed the experimental stage. What about the young adult? Does he need these examinations when he feels all right? Turn to the records of our draft rejections on physical grounds in the World War! They show an appalling total of

North Carolinians

R. Taylor

physical defects in our young manhood, and we may safely assume that there are many like defects among young women. Death in middle life is often the penalty of neglect.

In North Carolina the mortality rate from tuberculosis has decreased 50 per cent in the last twenty years and 40 per cent in the last ten years. Today, the mortality rate from heart disease is only slightly lower than that of tuberculosis twenty years ago, yet the heart mortality is not excessive compared to many other localities; indeed, there are far fewer cases of rheumatic heart disease than in colder sections where rheumatic fever is more prevalent. In general, tuberculosis is worse than heart disease in only one way—it is transmissible to others. So far as suffering is concerned, in the advanced cases of either, there is little choice, and this also applies to the prolonged disability and the economic waste of the two conditions. Therefore, it is just as important to take every possible measure to control the increasing mortality from heart disease as to combat tuberculosis.

The North Carolina Unit

So far as is known, North Carolina is the first state to create a unit of its board of health for the specific purpose of furthering periodic health examinations by the family physician. This unit has been made possible by two factors, the clear vision and tireless energy of our state health officer, and the cooperation and financial help of the international health board of the Rockefeller Foundation.

Our North Carolina unit is but new-born, and its mission is to arouse both the medical profession and the public. The medical schools have a crowded curriculum in an effort to train students to combat disease in persons who feel sick, but time must be found to teach disease prevention as well. This is new work, even to doctors, and demands new methods of procedure.

The tiny unit, beginning with a personnel of one doctor and one nurse, works in varied lines. Medical societies and individual doctors are visited and health examinations urged. When it is desired, demonstrations are given to the physicians in the technic of conducting the examinations. The public is reached through the press, ministers' associations, colleges, parent-teacher associations, radio and civic clubs, so there will be an increasing demand on doctors for this kind of work. When a doctor finds it difficult to adapt himself to the new methods of procedure necessary, nothing stimulates him more than repeated requests for periodic examinations from a large number of his patients. He may not be impressed by a single request, but a dozen or two health clients will arouse him to a realization of the fact that an opportunity for real service is presenting itself.

Thousands of Lives Saved

Life insurance company figures demonstrate that a large group of people having regular periodic health examinations will show from 18 to 24 per cent lower mortality than a similar group of unexamined persons. This is one of the most important reasons for the existence of a life extension unit.

Few persons are so foolish as to drive a car until it is hopelessly worn out, without an occasional overhauling by an expert to prolong its life. How many otherwise highly intelligent persons drive their bodies until they are permanently broken down, without a thought of the consequences until it is too late!

The situation confronting us is a clear-cut challenge that can be adequately met only by the full cooperation of the medical profession and the public. A widespread concerted effort toward periodic health examinations should result in the saving of thousands of lives and the conservation of the health of many more thousands.

The Runabout Child and his Problems

By Frank Howard Richardson

IV
Posture

ONE of the first things that calls adverse attention to many a little child is poor posture. Frequently faulty posture is the result of malnutrition, underweight and generally depleted bodily tone. When poor posture comes from this cause, it is worse than folly to attack it directly, for anything in the way of exercise simply increases fatigue, and the last state is worse than the first. In such cases all the attention must be directed toward the cure of the impaired nutrition, which may be all that is needed to clear up the bad posture. Whether or not it is sufficient to accomplish this, it must certainly be brought about before anything specific is done for the way in which the child stands.

Unfortunately, while curing malnutrition sometimes corrects bad posture, it frequently happens that it does not affect it at all. In such an event, we must combat the posture after we have done with its underlying cause; and the way to do this is the subject of this article.

Kangaroo.

The conjurer.

The seal.

Workers with children have become increasingly dissatisfied with the old "squads right" type of mechanical gymnastics that was the vogue a few years ago. Some of us are inclined to think that it is poor stuff for adults as well, but the adult sometimes profits by it because he does it voluntarily in order to bring about a result that he visualizes as he goes through the motions. The child has no such incentive, and the result of forcing the older child to go through with dull, formal maneuvers in which he has no interest is psychologically and pedagogically bad, for the reason that it gives rise to divided interest.

Results are poor with the older child, but at least he can be made to go through the motions by persistent effort on the part of the teacher. In the case of the runabout child, however, even the most strenuous effort on the part of the teacher meets with failure; for little minds will wander and little bodies will tire out, no matter what is done to force them.

Can Reach Child through Play

Fortunately a new approach has of late been made to the problem of correcting the posture of the runabout. Its solution has come by way of the principle that brings the quickest, the most lasting and the most effective results in teaching, wherever it is tried; namely, the principle of enlisting the interest or of furnishing incentives. What incentives can best be supplied to the child of the runabout age?

One universally appealing occupation for children is play. If the child with faulty posture can be made to play in such a way that his play furnishes the correction aimed at in former times by formal exercises, then our problem is solved. This is exactly what has taken place in the hands of teachers who understand not only the subject, corrective exercise, but as well the object, the child.

Before considering the correction of faulty posture, let us see what errors are commonest

Group of children playing duck.

in the average child of runabout age. Three are so common as to be present in almost every child with whom we shall have to concern ourselves, and any play that will correct these will go far toward overcoming the worst faults of posture in any group of children.

The first of these three is the associated group of round shoulders, winged scapulae (prominent shoulder blades), and flat or contracted chest. The second is weak abdominal muscles, allowing the familiar "pot belly," or sagging abdomen, so commonly observed in children who are below par. The third is flat feet.

While they by no means exhaust the list, the cure of these three vices of posture will work great improvement. Without attempting to accomplish too much or to make our effort too far reaching, let us concentrate on these three and see if we cannot make them yield to the play attack.

Every child likes to play group games; every child likes to imitate, and every child is fond of and familiar with animals. The three interests have been combined in a set of games for the correction of these specific postural faults.

Child Must Not Suspect Purpose of Game

Two things must be remembered in connection with this approach. The first is that although the teacher has a serious end in view, the child is interested solely in the means employed, so that the play incentive must be held in mind by the teacher throughout. When she says "Let's play crab" she must mean just that; and if any child fails to get the correct position that is desired, he must be corrected not in terms of human anatomy but in terms of crab structure. The second point to be borne in mind is that although each of these exercises will be described as applicable to the treatment of one particular defect, some of them will help with more than one, whereas others will have certain drawbacks. For the latter reason a wise teacher or parent will see that plays are chosen with the end in view of supplementing and also of correcting each other.

1. *Round Shoulders.*—For the correction of round shoulders, crab is the first game to be played. The youngsters lie on their backs and then raise themselves up on their hands and feet, with faces toward the ceiling and backs downward. In this way they can scuttle about the floor crabwise, with excellent results as to round shoulders. The shoulder blades are beautifully flattened and the chest is lifted up and forward. Incidentally the children are vastly entertained.

To play seal, the children lie face down on the floor, legs close together and arms locked behind their backs. Raising their heads and chests from the floor accomplishes just what the teacher desires; but it is mere fun for the youngster who thinks that he is imitating a trained seal.

For playing duck the children squat, buttocks on heels, hands on shoulders, and elbows held

back and down close to the sides, like the folded wings of the waddling webfooted paddler. A duck race may add interest to the imitation.

2. *Weak Abdominal Muscles.*—The rabbit cannot get about without jumping, and no one can jump about on the floor without exercising his abdominal muscles strenuously. The difference between playing rabbit and playing kangaroo is that in the former improvisation the arms may be used as forelegs; whereas any one who has ever looked at an animal book knows that most of the jumping of the kangaroo is done with his enormous hind legs, while his little front limbs hang down useless.

Any adult who doubts the development inherent in these two games can set his doubts —if not his aching muscles—at rest by trying them. As reducing exercises they are without a successful rival.

The roly-poly is a toy that cannot be tipped over, no matter how it is knocked about. It may be imitated by the child who lies down on his back, clasps his legs about his knees, and rolls about on his back. If a third game is desired, the mule, which stands on his forelegs while he kicks out viciously "wid he behime legs," may be taken as a useful model.

3. *Flat Feet.*—For the correction of flat feet, the tight rope walker furnishes an excellent exemplar. His tight rope may be represented by a crack between the boards of the floor, a chalk line, or, if great ambition is manifested by the group of performers, a piece of narrow board laid on the floor. In walking the tight rope it must be remembered that both heels and big toes must be in rigid alinement, best represented in acting by having the inner line of the feet touch the chalk line exactly with each step taken.

The sandpile furnishes diversion after the strenuous task of imitating the wild animals of the jungle. To play this game, the children sit with the toes turned forcibly inward, heaping up imaginary piles of sand between their feet.

The Conjurer's Tricks

Many tricks may be performed to interest a circus audience by the conjurer if he understands the palming of marbles. These are to be picked up by the toes of first one foot and then the other, one marble alone at first and later two at a time in each foot. It is more difficult, and more helpful, for the child to walk across the floor concealing the marbles thus held. If the youngster sits down and brings his foot around so that he can himself see the marble that he is palming, still other useful muscles are exercised.

It is difficult to the point of impossibility to maintain poor posture while one is trying hard to stand tall. For this reason, the giraffe makes an excellent animal to pattern after. Or, if there is to be a circus "march past," there are the drum major, the tall man, and the clown on stilts, all of whom may be represented by one or more willing volunteers. Let the word "willing" be constantly borne in mind, for the instant the play element departs and the compulsion element takes its place, the great virtue of this attempt at posture correction takes flight. When a thing once considered fun takes on the aspect of work, it is a herculean task indeed to get the fun element back into it again.

Coming in January

AUTHORITATIVE articles on a wide variety of health topics are scheduled for the January issue of HYGEIA. Among articles that the reader will anticipate with interest are the following:

SIMPLE LESSONS IN HUMAN ANATOMY (first of a series)
By B. C. H. Harvey, M.D.

PARENTS' MISTAKES
By C. A. Aldrich, M.D.

SHINGLES
By Clark W. Finnerud, M.D.

OUR IDIOSYNCRASIES TO FOOD
By W. W. Duke, M.D.

A dozen other articles on some phase of physical and mental health will attract the adult reader. For the children there is a story of a school boy hero who saved the teacher and thirty pupils from death in a big snow storm.

Buried Teeth

By M. S. Strock

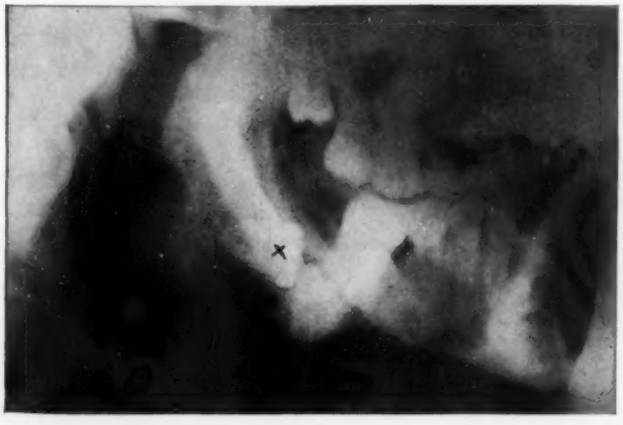
A large cyst has formed about a root tip, which was broken off during an extraction and allowed to remain in the mouth.

NOT a great many years ago the dentist was a traveling one-man circus. He came to town once a year and proceeded, to the amusement of the bystanders and the discomfort of the patient, to extract teeth in the middle of the town square.

It may seem that I am going back to the rash promises of the itinerant dentist when I say that "the lame have been made to walk, the blind to see, and the deaf to hear" by the extraction of a single tooth. Remarkable instances of this sort exist in modern dentistry although of course they are rare.

The cross marks a wisdom tooth, which the x-ray shows to be lying almost at a right angle to the other teeth.

One of the many things that the x-ray has brought to light is the fact that numerous persons carry in their mouths teeth that never came through the surface of the gum and that may or may not be causing them a great deal of trouble. Some of these unerupted teeth may be borne many years without one's suspecting their presence in the mouth. Then through infection or through pressure, they make trouble and their removal becomes necessary.



A tooth that is normal in every way except that it lies in poor position.

Of course, in these days of modern dentistry when every irregularity in the position of a child's teeth comes to the early attention of a dentist, it becomes rarer and rarer that such unerupted teeth are not discovered until adult life. But with the older generation, some of whom have never had an x-ray examination of their mouths, it is not unusual for a patient to have all the visible teeth extracted and full dentures made, only to report back to the oral surgeons months or even years later with a sore spot. An x-ray picture then discloses an erupting tooth in the gum. The pressure of the dentures has stimulated the tooth to erupt or has caused the tissues around it to become inflamed, thus necessitating its removal.

The same situation may arise from a root that has been accidentally broken during an extraction and that has become wedged between two erupting teeth. It is lodged in the bone so that nature's efforts to throw it off are of no avail and trouble results.

The old-time dentist used frequently to say after a tooth had been broken during a difficult extraction, "I have left a root in your mouth; it will work itself to the surface." Nowadays it is common knowledge that such roots are foreign bodies, and that nature, while it may make an effort to cast them off, often does not succeed. Such a root constitutes a menace. The pus about the root end will not only not be drained but the infected root tip will cause pus to continue to be manufactured, throwing infection into the system.

Besides, these foreign bodies are frequently the cause of growths about the mouth. A prominent oral surgeon is continually preaching the theory that root tips should be found and removed. In his own mouth a large cyst involving one-half of his lower jaw was found on routine x-ray examination. It was caused by a root tip left in some twenty years before.

Another common cause of disturbance is the unerupted wisdom tooth. In this day of refined foods, the need for chewing has grown less and less, and now man's jaws are considerably smaller than they were thousands of years ago. It is this lack of development that does not provide for the proper eruption of the wisdom tooth. The tooth is often found to lie in such a position that it injures the tooth in front of it and is unable to force its way through, or else it lies at right angles to the other teeth.

The abnormal position of the tooth, however, is not sufficient reason for its removal. X-ray pictures may show such a tooth to be normal in every way, except that it lies in poor position. On the other hand, such teeth often are the cause of severe pains of the head, ranging from a referred pain on the back of the neck to a more common complaint, earache. I have recently seen a case in which the removal of such an unerupted wisdom tooth greatly improved the sight of a man 45 years old.

Unerupted Wisdom Teeth

These wisdom teeth often erupt partially but do not seem to have sufficient force to come all the way through. So they remain for a number of years, with a flap of tissue covering half the surface and forming a pocket. Lying as they do in a remote corner of the mouth where the brush does not reach them and where the cleansing effect of masticating food is lost, these pockets are often a source of infection. The patient does not know that infection exists until food particles become lodged in these pockets. This starts up an inflammation, which becomes more or less acute. It either subsides in a few days, only to recur later, or an acute cellulitis develops, with its symptoms of a swollen face, inability to open the jaw, fever, malaise and accompanying distress.

Of course, such teeth can never become useful members of the dental arch because of their position. If in the opinion of the dentist these teeth, because of the incapability of the patient to keep them clean, will decay within a few years, it is far wiser to have them extracted before such inflammatory processes have warned the patient that infection is going on. The damage to the entire system that may be done by the absorption of such infection is comparable to that caused by abscessed teeth or by pyorrhea, and when the condition is of long standing, it is no less poisonous.

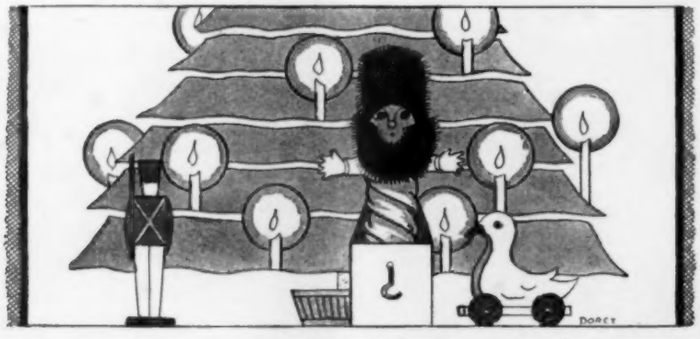
Numerous other conditions, while uncommon in every-day dentistry, are seen in a hospital clinic in which a routine examination of the mouth is made in every case. Growths, blind abscesses, broken fragments, infected bone cells and other abnormalities are often discovered in this way.

Early X-Ray Examination Needed

Every person should have a complete x-ray examination of the teeth early in life. When there is considerable decay or when there is much dentistry, this x-ray examination should be repeated at least every two years. The complete survey should take in not only all the teeth but the spaces as well.

A survey of the mouth can be had at a nominal rate and is an investment in good health.

It helps the dentist in many ways to safeguard the teeth and health. It shows him whether there is infection about the mouth, whether the baby teeth may have been retained too long and whether their retention has prevented the permanent teeth from coming through. It shows him whether any other abnormality exists or will exist within a few years. In short, the x-ray is a third eye without which a satisfactory examination is incomplete, and it constitutes an examination that every intelligent person should undergo regularly.



ADDING POUNDS AND PEP to Young Scholars

"JUST skin and bones—that's all Lois was last fall. Why, my fingers could meet round her arm! And now look—they barely go half way. I wouldn't exchange those 22 pounds for a farm."

It was the closing day of an eight months' nutrition demonstration conducted at the McClellan school in St. Paul, Minn., under the auspices of the Ramsey County Public Health Association, and the speaker was the mother of the champion weight-gainer of the class. She proudly drew attention to her daughter's chart, tracing with eager fingers the upward curve of the red crayon weight line on its triumphant march from 72 pounds in October to 94 in June. The chart was resplendent with the coveted gold star, awarded for the greatest gains, and rows of blue and green stars, which told of perfect records in all of the rules of the program.

Lois is not the only child at the McClellan school who has made a complete transformation during the past year. Take 182 pounds of solid flesh and distribute it among seventeen youngsters and it's bound to make a marked change. Hollows round out into curves, pale cheeks become round and apple red, and listlessness is replaced by a zest for work and play. This is exactly what happened in the nutrition demonstration, for which seventeen of the most seriously underweight boys and girls in the school were selected, the average underweight for the class being 14 per cent in October when the work started. At the close of school every child was up to weight or beyond, with the exception of one who suffered a setback as the result of an attack of influenza. Nine pounds per pupil was the average gain.

Strange as it may seem in these days when reducing seems to be the craze among the entire sex from grandmother down to her teen age grandchild, greatest gains in the class were made by girls. Next to Lois with her record gain of 22 pounds followed two other girls with weight increases of 17 and 13 pounds. The boy who made the best showing was fourth on the list with a gain of 11 pounds.

By Marguerite B. Breen

What was the secret of these remarkable gains, every anxious mother of a lanky Mary and lean Jim will ask? Proper diet, extra rest periods and a regular daily health schedule is the answer of Miss Agnes Larson, nutrition worker for the St. Paul department of education, who directed the work.

Putting pounds on skinny youngsters was, however, only a by-product in this project, which was primarily a laboratory demonstration of nutrition theories. The seventeen boys and girls were subjected to a carefully planned and supervised health program. Remaining at school each day during the noon hour, the children were served a hot lunch with green leafy vegetables, fresh fruits and milk. Then followed a forty minute rest period during which the pupils relaxed or slept on cots in one of the most quiet rooms of the building. Fifteen minutes of outdoor play preceded the return to the afternoon classes.

Following the thorough medical examination given at the beginning of the demonstration, pupils were reexamined by school physicians once each month in the presence of parents. Every Wednesday they were weighed and measured and a careful study was made of reasons for individual gains or losses, stars being awarded for good reports. Many mothers attended these weekly classes.

Homes joined forces with the school in carrying the demonstration through a twenty-four hour schedule. Nutrition students from the University of Minnesota, who volunteered their services, called on parents and interested them in the program. A regular bedtime, allowing from ten to eleven hours rest with four before midnight, open windows in the sleeping rooms, a well balanced breakfast from which coffee was to be eliminated, an outdoor play hour in the sunlight, green vegetables, fresh fruits and milk in abundance, and candy only after meals were among the points particularly stressed.

To test the value of special nutrition methods and to provide a means for measuring the progress of the class, a control group composed of ten other underweight children was established. This group carried out the complete demonstration program with the exception of the school lunch and nap. Value of the latter phase of the regimen is proved by the fact that the children in the demonstration made an average gain four times as great as those of the control group. No members of the latter group reached normal weight. The greatest gain was only 8 pounds, as compared to 22 in the other class.

That the demonstration was not without its modern miracles is a fact to which a number of amazed parents will attest. One of these was the reformation of Ted, a 10 year old tyrant, who for years had skilfully foiled the best laid plans and combined efforts of mother and father to get him to bed at a reasonable hour, and whose final forced nocturnal exits were invariably accompanied by whoops and whines of protest. To see him at noon meekly slip away into slumberland was one of the surprises of the experiment.

Then there was Jane, an assertive miss of 10, down whose throat no one could force food she did not choose to eat. Coming to the

SAMPLE MENUS USED IN DEMONSTRATION

Amount	*Kind*	*Calories*
¾ cup	Macaroni with eggs	308
½ cup	Buttered carrots	41
⅝ cup	Milk	100
2	Whole wheat bread sandwiches	200
½ cup	Vegetable salad	113
½ cup	Fruit cup	134
	Total Calories	896
¾ cup	Creole spaghetti	238
1 serving	Perfection salad with dressing	176
¾ cup	Milk	120
2	Cabbage sandwiches—whole wheat bread	320
½ cup	Stewed apricots	120
	Total calories	864
⅔ cup	Scalloped potatoes	183
½ cup	Cabbage and apple salad	65
2	Ham sandwiches — whole wheat bread	314
¾ cup	Milk	120
½ cup	Rhubarb sauce	160
	Total calories	842
⅔ cup	Scalloped eggs with cheese	350
½ cup	Stewed tomatoes	75
2	Whole wheat bread sandwiches	200
¾ cup	Milk	120
1	Baked apple with cream	225
	Total calories	970
¾ cup	Creamed eggs with peas	340
4 stalks	Buttered asparagus	75
½ cup	Bean and cabbage salad	49
¾ cup	Milk	120
2	Whole wheat bread sandwiches	200
1 serving	Cottage pudding with vanilla sauce	216
	Total calories	1,000
½ cup	Spanish rice	164
½ cup	Carrot, cabbage and peanut salad	100
2	Egg sandwiches—whole wheat bread	270
¾ cup	Milk	120
½ cup	Fruit cup	134
	Total calories	798
⅔ cup	Lamb stew with vegetables	250
½ cup	Mashed potatoes	156
¾ cup	Milk	120
2	Cabbage sandwiches—whole wheat bread	320
1 serving	Date torte with whipped cream	350
	Total calories	1,176

demonstration luncheons prepared to scoff, she remained to eat—not disdainful mouthfuls but whole platefuls of spinach, beets and cabbage, which were previously to her mind completely beyond the pale of edible foods. Mothers of children with decided food prejudices will find a suggestion in the experience of the director.

Threats such as "no dessert until all the plate is clean" were effective at first, according to Miss Larson. Later, when the children got into the swing of the demonstration and enthusiastic over its competitive side, special inducements were unnecessary, as each child was determined to do everything to keep up his weight record.

That nutritious foods need not necessarily be expensive was another point the demonstration shows. Meals were prepared at an average cost of 12½ cents. Children able to pay were charged a fee of 5 cents. Additional cost was financed out of an appropriation of Christmas seal funds made by the Ramsey County Public Health Association.

Luncheons were planned to provide an average of from 800 to 1,000 calories of food value. On the preceding page are a few menus picked at random from those used during the demonstration.

Another by-product of the demonstration was better school work by the pupils taking part as a result of their improved health.

If this demonstration had done nothing more than place on the royal road to health seventeen boys and girls whose seriously underweight condition might have made them easy prey for tuberculosis, it was well worth while. But its benefits were more far reaching than that. "Am I up to weight?" is the question in the mind of every pupil in the school. Parents have become aroused to a new interest in nutrition. Thus it is that Lois and her sixteen companions in the experiment have not only given themselves a new lease on life but have through practical demonstration taught the entire school district the a-b-c's of healthful living.

Tuberculous Physicians *and Their Contributions*

ROBERT CHILDS PATERSON was born in Montreal in 1878. He was graduated from the school of medicine of McGill University and later became house officer and medical superintendent at the Montreal General Hospital. From 1904 to 1906 he was in Europe making a special study of pathology in various nations. Then he returned to pursue his work in Montreal. In 1906 he developed Parinaud's conjunctivitis, an infectious disorder of animal origin, but unfortunately the true nature of this condition was not recognized and he returned to work too soon. It was not long, however, until under strenuous work he broke down with unmistakable tuberculosis and without delay went to Saranac Lake.

After a time he accepted a position with the new Laurentian Sanatorium in Quebec. The work was too strenuous and after five years he returned to Saranac Lake, where he later opened an office for practice. While waiting for a practice to develop he took advantage of the opportunity for study and research and made some noteworthy contributions. His publications on pleurisy and intestinal tuberculosis are outstanding.

He became a member of the faculty of the famous Trudeau School of Tuberculosis, where he contributed much to the cause by teaching other physicians diagnosis and treatment of the disease. Being greatly respected by the members of his own profession, he became a member of the American Association of Chest Surgeons and other important medical societies. He was a firm believer in the greatest of all institutions, the home, and in addition he had a great interest in the church and civic affairs.

Dr. Paterson had remained well and strong following his return to Saranac Lake, but just before Christmas, 1921, a pistol in the hand of a deluded patient put an end to his life. His life is a striking example for every tuberculous patient. He proved that in the face of tremendous handicap one may lead a life of so great service that when life itself is gone its good works continue on through the years, uplifting, encouraging and strengthening others. What more should life accomplish?

—J. A. MYERS.

Tabriz Emerges

LAST summer a new chapter was added to the long and frequently unhappy history of Tabriz. Four hundred Persian women witnessed the first health play ever given in Tabriz, the capital of the Azerbaijan province of Persia.

Small students at the American Girls' School in that city presented to their parents and to the public the HYGEIA health play "From Danger Valley to Safety Hill." The play was published in HYGEIA for January, 1924, and is the work of Miss Lydia J. Roberts, professor of home economics at the University of Chicago, and teacher of special health classes for undernourished, underpar children.

Tabriz has three times been devastated by earthquakes. It has been captured and recaptured under the great military leaders of Asia by Persians and Turks in succession. There is not much that is cruel or harsh or fearsome that has not been endured by the people of Tabriz. They have known famine and bloodshed and slavery and iron rule. Of late years they are beginning to feel the influences of education and scientific progress through schools and hospitals.

So there is significance to the event when the little girls of Tabriz put on a health play. Four hundred Persian women now know that there is a Danger Valley in Tabriz where "it is damp and dark and ugly," where "pale, thin little girls with dark rings under their eyes and drooping shoulders become tired, fretful and cross." The same women now know that there is a Safety Hill in Tabriz also, where Milk, Vegetables, Fruits, Cereals, Eggs, Sunshine, Sleep and Play guard the health of children.

HYGEIA health plays have been presented all over the United States and in Canada and Mexico. Some of them too have been presented in China and in Europe. But health plays are a new idea in Persia and when "From Danger Valley to Safety Hill" is given in Tabriz it

from

"Danger Valley"

seems worth recording both in pictures and in text. Miss Harriet B. Pease of the American Girls' School has supplied the accompanying snapshots.

Miss Roberts' play is published in the usual HYGEIA reprint form and is available to teachers and the public at small cost. Of health plays in general, Miss Roberts says: "A health play of the right kind, properly and effectively used, can render important service in health education. To meet these requirements the play should first of all be scientifically sound in respect to the facts that it presents. It should, in addition, be simple and straightforward in its presentation, rather than fanciful, and the language should be suited to the intelligence and understanding of children. A play written by the children themselves is most apt to fulfil these requirements and is therefore the best kind."

Not the least of the benefits to be derived from a health play come from its being taken home where it is read to the parents and other children of the family and often to the neighbor children as well, Miss Roberts points out. Whoever happens to be around is called on to read the various parts, and thus the lessons are impressed on a much larger group than was originally intended. The presentation of the finished play to an audience of parents and children from other grades further enlarges its field of influence.

The author of "From Danger Valley to Safety Hill" also warns teachers in producing plays against too long practice and rehearsals of plays. Teachers and children become overenthusiastic and the children become tense, overexcited and fatigued. Moreover, a health play given at night is a violation of one of the most fundamental laws of good health.

Suggestions for costumes as outlined by the author were followed in the Persian presentation of "From Danger Valley to Safety Hill," with some modifications to suit local conditions.

Your Gallbladder

II. When It Is Diseased

By Lester Whitaker

Fig. 1.—An x-ray picture of the liver and gallbladder of a cat in which small gallstones had been placed in the gallbladder. The arrow points to a stone that has been forced out of the gallbladder by its contraction and that has lodged in the main bile duct at the entrance into the intestine. Thus the gallbladder can empty no further; blockage of the main duct results in backing up of the bile into the liver, which produces jaundice.

WE HAVE seen that improper eating habits or conditions associated with severe diseases or infection of the gallbladder with bacteria may result in damage to that organ. The trouble originates almost always from one of two sources: (1) from gallstones produced as a result of abnormal function, or (2) from infection increasing to the point at which the gallbladder becomes severely, perhaps dangerously, inflamed.

When gallstones form they may vary in size from minute dustlike particles to masses the size of an egg. Strange as it may seem, the smaller stones are more productive of evil than the larger ones. The small stones when pushed out of the gallbladder along with the bile by contraction of its muscle produce severe irritation of the passages through which they are forced. This results in the terrible gallstone colic. But more dangerous to life is the possibility that one or more of these smaller stones in passage down the ducts may lodge at the restricted portion of the main bile duct just above its entrance into the intestine (fig. 1).

How Jaundice Develops

Obstruction thus produced not only prevents normal discharge of material from the gallbladder but also blocks the passage of bile from the liver. The bile then backs up into the liver and is there taken into the blood stream and carried throughout the body. Thus a yellow discoloration of the tissues called jaundice is produced. Bile, being a mild poison to the tissues, damages them more or less and of course lowers the vitality of the patient. Also the clotting power of the blood is reduced. For these reasons surgical operation on patients with obstruction to the bile passages is somewhat more dangerous than on patients without obstruction.

Nevertheless, operation must almost always be done sooner or later to save the patient's life. How to prepare the patient for it and when and how to do it is one of the nice problems of surgery.

In addition to the colic and the mechanical obstruction of the bile passages from small gallstones there is another type of disease of the gallbladder that may be quite as serious. The infection of the gallbladder previously mentioned as a probable cause of gallstones may increase in severity until the gallbladder is acutely inflamed and filled with pus, or the gallbladder itself may even become gangrenous. Gallstones, large and small, remaining in the gallbladder may play a part in this process by long continued irritation of the wall of the gallbladder, since they are churned about through its muscular contraction after meals.

When Gallbladder Is Inflamed

When the gallbladder becomes acutely inflamed the patient of course has fever, as from any other infection, and pain, generally in the upper part of the abdomen. The stomach, being closely associated, may express sympathy with the gallbladder through vomiting, thus stopping digestion and putting the whole alimentary tract including the gallbladder into a state of rest—a state most favorable under the circumstances.

The trouble must of course be dealt with. If the disease has progressed only to the stage of acute inflammation, the attack may subside

with rest and proper care; if the gallbladder is filled with pus this must be removed surgically sooner or later, otherwise it may r u p t u r e into the abdominal cavity; and if the gallbladder is gangrenous operation should be done at once or the gallbladder may explode like a bubble, spreading infection throughout the abdominal cavity and resulting in death of the patient from peritonitis.

The decision as to when and how to operate in these cases of inflammation of the gallbladder is another one of the nice problems of surgery.

Obviously in patients with obstruction of the bile ducts from stones or with acute inflammation of the gallbladder from infection the condition should have been treated and the danger averted before it became so serious. Modern medical and surgical knowledge now makes this possible.

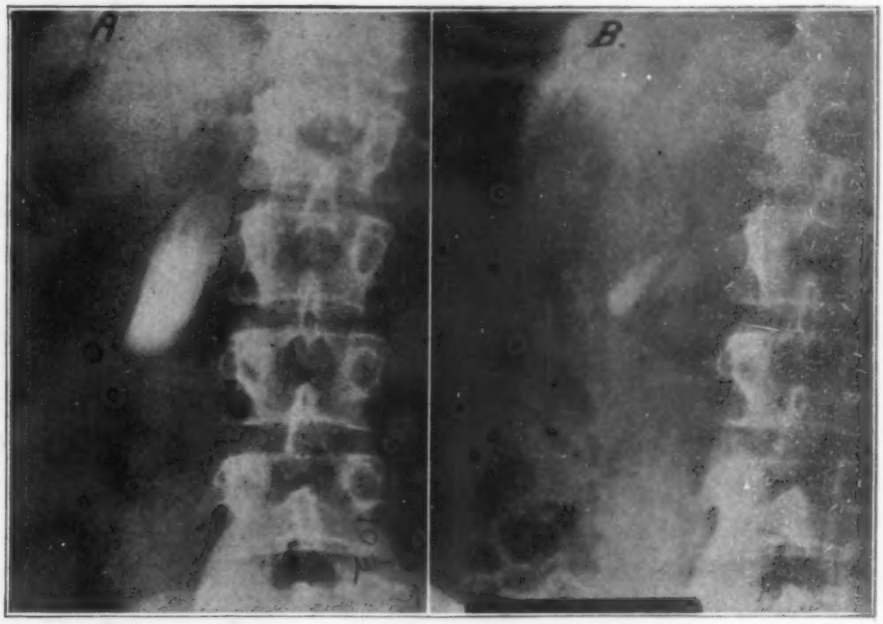


Fig. 2.—A, an x-ray picture of the gallbladder in a human being. The organ, which is filled with a compound of iodine given to the patient for test purposes, shows up as a large white area beside the spine. B shows the gallbladder nearly empty one hour later after contraction following a meal rich in fat.

Detection of Gallbladder Disease

While gallstone colic is the major symptom of disease in the gallbladder it is not the only one; in fact it may not occur. There may be cases in which no definite symptoms are noted. Such cases are likely to be those in which only large stones are present in the gallbladder. They are too large to produce symptoms by passing down the ducts and are prevented from damaging the gallbladder by the bile in which they float.

But usually disease of the gallbladder is indicated by general digestive disturbances—discomfort after meals, food remaining like "lead in the stomach," poor appetite, nausea, gas formation and belching (coming in attacks after taking indigestible food or coming more or less regularly after meals), vague, dull, dragging pains in the upper part of the abdomen, in the "pit of the stomach" or to the right, going around the right side to the back. There is often tenderness in these areas.

It is interesting to speculate on the direct cause of these symptoms. Some believe they arise from irritation due to inflammation of the gallbladder. This is possible but they may also be due to the passage of small particles or stones down the gall ducts, which is brought about by contraction of the gallbladder after meals. It is notable that foods which most effectively produce contraction in the gallbladder, such as rich, fatty foods, are usually those which aggravate symptoms of gallbladder disease in patients.

In disease of the gallbladder the patient may also have attacks of fever indicating a flare-up of the infection, or jaundice resulting from temporary blockage of the main bile duct with stones.

From a thorough study of all these signs and symptoms the physician may be fairly certain that the patient has a diseased gallbladder. He may become more certain and also learn more of the exact conditions by employment of a valuable new x-ray test known as cholecystography, which was devised by Drs. Graham and Cole and their associates of Washington University, St. Louis.

The New X-Ray Test

A substance containing the dense element iodine is injected into the vein of the patient or given by mouth. This substance is taken out of the blood by the liver and thrown into the bile. We have seen that bile from the liver collects in the gallbladder during fasting. We have also seen that this bile is concentrated in the gallbladder by absorption of its water. Thus after the patient takes this substance iodine is stored in the gallbladder in rather large quantity.

Dense elements, such as lead, iron and iodine, and dense materials, such as bone, have the power of checking the passage of x-rays, producing shadow forms on exposed photographic film.

If a key is place on a photographic film and then exposed to x-rays the outline of the key will be clear and white where the x-rays have not penetrated the iron, while the film about will be black from the effect of the rays. Thus

the gallbladder containing iodine, placed there for purposes of the test, will show up as a shadow form like that of the key on the film (fig. 2A). This shadow can then be examined.

Often evidences of stones can be noted in the shadow. Figure 3A shows an x-ray of a gallbladder containing numerous small stones, which appear as dark spots within the shadow of the gallbladder. Also by means of this test it can be determined whether the gallbladder contracts normally by giving a meal rich in fat and noting reduction in size. Figure 2B shows almost complete emptying one hour after a meal. This means that the wall of the gallbladder is not much diseased and that no stones are present. Observe the difference in figure 3B. The gallbladder, while it contracts, cannot empty. It is easy to see though how this contraction may force some of the smaller stones down the bile ducts, producing colic.

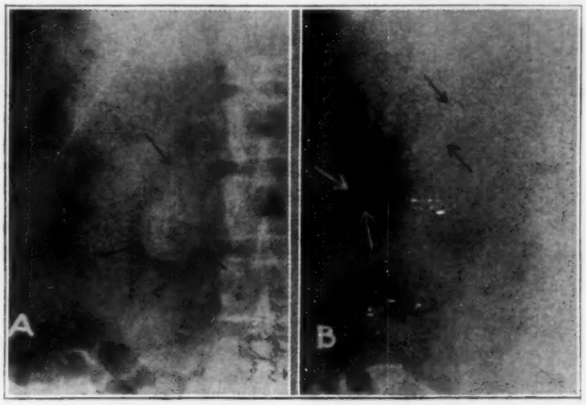


Fig. 3.—A, an x-ray picture of a gallbladder containing iodine compound. The stones present show up as dark areas in the shadow of the gallbladder. B shows contraction of the gallbladder one hour after a meal rich in fat. Emptying is incomplete, owing to the presence of stones that cannot pass through the ducts. Compare with figure 2.

Thus from symptoms, physical examination and the aid of special tests, the physician can learn not only that the gallbladder is diseased but in what way it is diseased and from this knowledge may be enabled to treat it properly.

If the symptoms are slight and tests show the gallbladder to fill and empty fairly well there is a possibility that proper medical treatment and care with diet will cure the disease. But if the gallbladder contains stones too large to pass through the ducts or is too much inflamed to fill and empty properly the only possible cure is by surgery. Stones or pus must be removed, and the gallbladder itself should be removed if possible. Stones in the gallbladder are a perpetual menace. Only a condition of the patient in which their removal would be more dangerous than leaving them would warrant treatment without operation, and this is unusual.

Treatment of Gallbladder Disease

There is no possible method other than surgery of removing gallstones too large to pass the bile ducts. Any person who claims to be able to dissolve gallstones is a menace to human life. It cannot be done. The stones will simply remain a future source of trouble.

In case some one denies this, let him consider what follows. One of the chief constituents of gallstones, calcium carbonate, can only be dissolved by some strong acid like nitric, and the other, cholesterin, only by chloroform or some related solvent. In order to dissolve the stones these chemicals would have to reach the gallbladder through the blood. A teaspoonful of chloroform or nitric acid injected into the blood stream of a cat or dog would result in quick death.

Medical treatment may be employed, then, in mild cases of gallbladder disease but surgical treatment must always be used in severer forms.

Some patients are fearful that removal of the gallbladder will injure them in some way. While the gallbladder does have a definite function it is only an accessory function and not a vital one. The liver without the gallbladder furnishes sufficient bile for digestion.

The prevention of gallbladder disease consists, first, as in all other diseases, in maintaining a high state of vitality by proper regulation of life and care of the body, in order that all its functions, including that of the gallbladder, may proceed with vigor. More particularly the function of the digestive tract and the gallbladder should be kept active by proper dietetic care—avoidance of stuffing, eating too frequently or between meals, eating without appetite and overeating of rich, fatty or irritating foods.

Finally at the conclusion of this series of articles I wish to state an important fact, a fact that every intelligent and social minded person should consider. Without experimentation on animals we should know something about the gallbladder, chiefly from surgically removed specimens and from examination of patients after death; we should know that the gallbladder often contains stones and that it becomes inflamed, that it causes great pain, and that surgery may cure its troubles.

Why Animal Experimentation?

But here is the nub. Without animal experimentation we should not know why the gallbladder becomes diseased and should have no idea of preventing this dangerous disorder; we should know nothing of how the gallbladder works normally, or why it begins to act abnormally, and should have no real understanding of the resulting symptoms that lead us to suspect trouble; nor should we have the x-ray test. By means of this knowledge and this test physicians are able to detect early those conditions that need surgery, and thus save human life.

Turpentine Poisoning

Pine trees are cut in this way to obtain the gums from which gum spirits turpentine is distilled.

By Carey P. McCord

A STRANGER of thirty-five years ago, traveling along the primitive highways of any of the piney woods states of the South, was sure to have his curiosity aroused by the blackened holes dug into the clay walls of the cuts in the roadways. If he examined these more closely he would find that the bottoms sloped toward the roadway and ended in a crude, dauby connection with a tin trough or jugware pipe. In answer to his inevitable question, he would be told that these were tar holes. Knots of fat pine would be burned in these holes and the tar and pitch liberated drained off into the crock or tin can which was always placed at the end of the trough.

Tar and pitch then played an every day part in the life of the rural southerner. Tar was the common lubricant, fly repellent, disinfectant, household remedy, glue, veterinary cure-all. Just as "banana oil" finds a widespread use in the slang of today growing out of the common industrial use of that chemical, so in an earlier day's vernacular tar, pitch and turpentine found a similar slangy use.

These primitive stills, or retorts, have long since disappeared but the use of chemical pine products has called for continued developments in this industry. In one recent year, 27,261,425 gallons of turpentine were produced, together with 1,903,370 barrels of tar and rosin and 1,949,394 gallons of pine oil.

Unfortunately, with all the developments in this industry, it has not proved practicable to eliminate the harmful properties in turpentines.

Most persons past the fourth decade of life recall the indiscriminate use of turpentine for most of the ills that assailed them. A cut finger was bound with a wet dressing of turpentine. At the first sign of croup, a piece of red flannel drenched with turpentine was applied, notwithstanding protests, to the chest. For intestinal diseases a dozen drops of turpentine on sugar was an unfailing remedy. On the following day when the person, usually a child, was forced to run every few minutes to a urinal, he was told, "It is the poison leaving the body as a result of the good action of the turpentine." It was nothing of the sort; but was rather the protest of outraged kidneys against the renal irritation of the definitely harmful turpentine.

Except for its use as an irritant in liniments the medical employment of turpentines is happily on the wane. Most persons now realize that turpentines are markedly limited in their disinfecting value and that many other disinfectants are equally cheap and far more serviceable. However, the harm from this irritant continues, although it is largely limited to the industrial uses of turpentines.

Painters, paint makers, glass cutters, turpentine makers, printers, ink makers, linoleum makers, lithographers, cable workers, textile workers and potters are some of the tradesmen that may be exposed to the harmful action of turpentines.

The commonest form of injury is found in skin diseases, usually limited to the hands and

forearms. A rash appears, followed by blistering. If no further exposure takes place these lesions quickly disappear with or without treatment. In the case of the workman regularly exposed, the skin repeatedly responds with acute attacks and then takes on a chronic form in which the skin is dry, thickened, inflamed and readily responsive to all irritants.

Less frequently turpentines produce irritation along the respiratory tract, which manifests itself as bronchitis, or turpentines may be the cause of gastritis. Of far greater significance than any of these is the nephritis, or Bright's disease, that may be produced by turpentines. An examination of old-time painters will reveal evidence of nephritis in the majority of them in greater severity than is true for other persons of their age. This is not wholly attributable to turpentines, as lead and other paint materials are likewise capable of producing this condition. When the urine possesses an odor of violets this is not an omen of pleasant significance. It means that turpentine or some similar substance is being absorbed.

The situation is being made worse owing to the wider use of turpentines made by newer processes—the wood turpentines. In an earlier day turpentines were exclusively made by cutting into the bark of the living pine tree and thus paving the way for the extrusion of the pine gums. After collection, this material was distilled in a simple apparatus and was called gum spirits turpentine. Many hundreds of small stills in the South yearly produce millions of gallons of this type of turpentine. In the fresh unpurified state this type is probably less irritating than any other. But this primitive process is far from satisfactory from an industrial point of view. The trees are maimed, the product is unstandardized, production methods are costly and the available forests are fewer and fewer.

These facts have led to the extraction of the turpentines from the cut-over forests, the stumps and light wood. The name, "stump turpentines" is used to some extent for these products. In one process the ground-up pine stumps blasted from the ground are subjected to extraction with steam. This steam distilled wood turpentine has proved to be far more irritating than the commercial gum spirits turpentines.

Cincinnati General Library

Hundreds of stills of this type produce the country's supply of gum spirits turpentine.

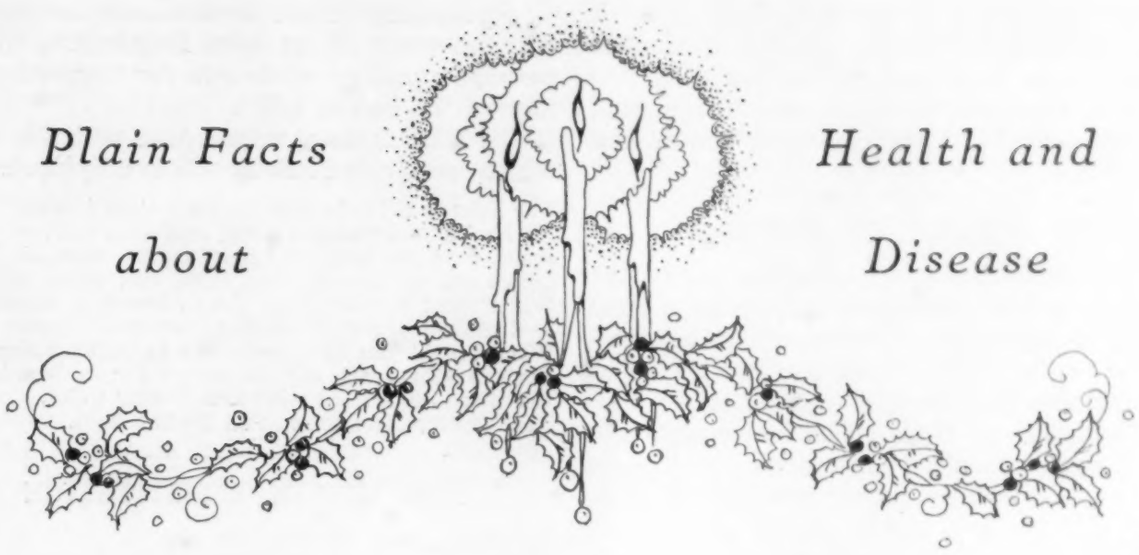
In another process unpulverized pine wood is extracted in tightly closed retorts with dry heat. Burning would take place except for the fact that no oxygen is available for combustion. The resulting turpentine is called destructively distilled wood turpentine.

In a fourth method of distillation turpentine is produced as a connecting process with the Kraft process of paper manufacture. As yet no experience has developed indicative of the degree of irritation produced by this turpentine. None of these new process turpentines are extensively used for other than industrial purposes.

The making of roadside pine products belongs to the past.

Turpentines serve a useful place in our every day life. Crude, uneconomical methods of manufacture will soon be eliminated. It is undesirable that we combat this type of production by newer methods. Pioneer manufacturers should not be handicapped by unfavorable legislation. They have, however, an obligation to journeyman painters and other users of turpentines to make every possible effort to eliminate the evil features connected with the varied uses of turpentines.

The public in its turn has an obligation to recognize the toxicity of turpentine and to use these chemicals only under conditions that are free from danger.



NEW FACTS ABOUT VITAMINS

SINCE the comparatively recent time when it was first determined that the interesting food substances called vitamins were as important, if not more important, than the chemically identified constituents of food substances, scientific investigators all over the world have been making extensive studies leading to the identification of each of these active principles, to a realization of its functions in the human body, and to a consideration of the types of foods in which the vitamins might be found. Already the functions of vitamins A, B, C and D have been definitely determined, and the results of any deficiency of these vitamins in the diets have been thoroughly established by observations both on animals and on man.

The relationship of vitamin A to a disease of the eyes and to the response of the human body to infection has now been quite certainly revealed. It has been shown that vitamin B in the diet is concerned with nutrition and digestion, and particularly with disturbances of the nervous system. Indeed, the latest research indicates that vitamin B may contain two factors, one of which is related to the prevention of pellagra. For this reason, yeast is used in the prevention of pellagra, because yeast is one of the substances richest in vitamin B. Vitamin C is called the antiscurvy vitamin, and a deficiency of this substance results in the symptoms of scurvy, including hemorrhages about the joints, bleeding of the gums and interference with the utilization of lime in the body.

The important vitamin in relation to the growth of the bones is vitamin D. This is found particularly in cod liver oil, and aside from fish oils there is no known natural food that possesses an abundance, although egg yolk contains a small amount. The omission of vitamin D from the diet means rickets in the child. Recent investigations have shown that the effects of vitamin D may be secured by the use of the ultraviolet ray and that it is possible to secure vitamin D thousands of times stronger than cod liver oil from the action of the ultraviolet rays on a substance called ergosterol. Because of the potency of this preparation, extensive studies are being made as to its effects before it is offered for general distribution.

The vitamin called vitamin E is apparently related to sterility and the activity of the sex organs. This vitamin occurs so extensively in foods and in nature that great concern has not yet been expressed as to its deficiency in the human body.

The naming of the vitamins and their classifications has been a complicated problem, largely because knowledge concerning them has been developed piecemeal. Thus Vitamin B is now known to consist of two active principles, and it has been suggested that these two principles be renamed F and G. Other specific activities of foods have been credited to vitamins, and since the definite substance has not been isolated, the term X has been called into usage to express the unknown quantity.

It is important to realize that science is merely at the beginning of the securing of an enormous amount of important knowledge in this field. Already questions are being raised as to the effects of possible overdosage of these substances and of their relationship to each other. Until much more knowledge is available, the information now at hand may be taken as sufficient for experimentation in this field. Fortunately, the human body is possessed of vast factors of safety and is able to make tremendous

adjustments to new or harmful situations. It is safe to predict that the passing of another ten years will develop facts in this field that will be of inestimable importance to mankind from the point of view of better health and longer life.

THE SCHOOL OF SALERNO

THE earliest European organization in the nature of a university is said to have been the medical school at Salerno, an ancient seaport in southern Italy not far from Naples. Recently Mrs. Charles Singer, wife of the eminent English medical historian, has made available a consideration of some of the legends dealing with the foundation of this institution. These legends are significant of the superstitions of the middle ages when the school was founded.

The school of Salerno flourished in the eleventh and twelfth centuries. One legend stated that the institution was the result of the meeting of four masters, a Greek, a Latin, an Arab and a Jew. It has been impossible to identify these four characters, but since the school represented the influence of four types of learning that were centralized at Salerno, the origin of the legend is easily comprehensible.

Another romantic tale which Mrs. Singer believes is utterly without foundation deals with "The Ladies of Salerne." Thus, the idea has been current that a woman physician known as Trotula taught in Salerno, and, indeed, her writings in the form of a book of advice to women are still available in ancient editions, which can be found in stores devoted to the accumulation of the medical literature of the past. The historical investigation by Mrs. Singer indicates that there was a doctor in Salerno known as Trottus, who was unfortunately a mere male and not a woman physician, and that the collection of his writings in accordance with Italian custom was called the Trotula. Because the book dealt with intimate aspects of women's functions, the collection was credited to a woman writer.

The famous work of the school of Salerno is a poem called "Regimen Sanitatis Salerni." This poem was translated into many European and some Asiatic languages. It is still repeated in many books, as it constitutes a popular outline of hygiene. Mrs. Singer believes that the poem was the work of a physician known as Arnald of Villanova, who had studied at Salerno, and that much of the success of the work depended on the romantic legends associated with its writing. The first English edition was published in the seventeenth century. It was the work of Sir John Harrington, who is perhaps equally well known for suggesting the idea of the indoor toilet.

The Harrington version opens with ten lines, which constitute a brief guide to a hygienic life:

The Salerne Schoole doth by these lines impart
All health to Englands King, and doth advise
From care his head to keepe, from wrath his heart,
Drink not much wine, sup light, and soone arise.
When meat is gone, long sitting breedeth smart;
And after-noone still waking keep your eyes.
When mov'd you find your selfe to Natures Needs
Forbeare them not, for that much danger breeds.
Use three Physicions still; first Doctor Quiet,
Next Doctor Merry-man, and Doctor Dyet.

THE HUMAN CONSTITUTION

MORE and more, the opinion is gaining ground that the human being must not be considered from the standpoint of any organ or of any system, but as a conglomeration of cells organized into systems functioning in close relationship to each other and animated by a mind. This totality, which is the individual, reacts to conditions in his environment according to the sum of his heredity and the nature of his constitution. In other words, the emphasis placed by Hippocrates, the founder of modern scientific medicine; by Sydenham, the great English clinician, and many others on the importance of viewing the human being as a whole has now been justified by detailed scientific medical research.

As a result of many studies made from this point of view, several classifications of types have been developed, based largely on important factors which are considered basic to the classification. Some of the types have been described in relationship to the activities of the glands of internal secretion. Thus, persons of a hyperthyroid temperament are known to be active, vivacious, with rapid heart, with much hair about the body, rather tall and thin, whereas those with deficient thyroid are slow, rather broad, somewhat deficient in hair and inclined to be lacking in vivacity. The effects of other glands may induce gigantism or dwarfing. Overactivity or underactivity of the glands commonly called the sex glands may be marked by definite changes in the human body.

Other attempts to classify human beings in types are related to the development of diseases associated with certain forms of body structure; thus occur the conditions called diatheses. People are said to be of the tuberculous type, with the chest conformation and tendency to lung diseases associated with this form of body structure; of the exudative type, suffering with

asthma, eczema and similar disorders; of the spasmophilic type, tending to nervous instability and convulsions.

From the standpoint of the reactions of the human mind to various situations, people are known as overexcitable or stolid, weak willed or courageous. These very simple classifications indicate that men in general have observed the tendency toward consideration of the human being as a whole in the same way that physicians now find these studies desirable in relationship to human diseases.

Again it should be emphasized that each human being is the sum of his ancestors, of varying structures through many generations, of the diseases associated with certain forms of body structure, of glands that may profoundly influence the activities of the human body, and of the reactions of many minds. It is impossible to comprehend thoroughly the nature of any human being unless he is considered in the light of the combination of all of these different factors.

NEW PASTEUR MEMORIAL

A MONUMENT to Louis Pasteur, erected by the Pasteur Memorial of Chicago, was dedicated Saturday afternoon, October 27. It is placed in Grant Park at the west end of the Field Museum in a fine plaza between the museum and the boulevard. The monument stands 28 feet high. Its position is in the east and west axis of the museum and its proportions and location put it in perfect relation to its surroundings. The monument itself consists of an ornamental shaft, upon the top of which is a noble bust of Pasteur. The base is 22 by 26 feet. Both monument and base are in Carrara marble.

Its appropriate relation to this great museum of natural history makes the monument a memorial worthy of its subject. It was built by popular subscription from almost a thousand contributors. Medical societies, Chicago French societies, a few other organizations and many individuals contributed.

On the opposite side of the shaft from that displayed in the photograph is a bronze plate, which carries this inscription:

LOUIS PASTEUR
1822-1895

Benefactor of Industries, Revealer of Mysteries of Disease of Man and Animals and Deviser of Methods for Its Control, Whose Discoveries Have Lessened Suffering and Prolonged Life and Added Immeasurably to the Comfort, Security and Dominion of Man.

Dr. Frank Billings, who was the chairman of the Pasteur Memorial and largely through whose efforts the undertaking was brought to a successful conclusion, presided at the dedication. Prof. Ludvig Hektoen of the University of Chicago made the address on Pasteur. M. Paul Claudel, ambassador of France to the United States, spoke in behalf of the French people. The monument was presented to the board of South Park commissioners, upon whose land it stands, by Dr. Billings. It was accepted and its preservation assured by E. J. Kelly, the president of the South Park commissioners of the City of Chicago.

In the evening there was held at the Drake Hotel in celebration of the occasion and in honor of the ambassador of France a reception and banquet which was attended by a notable company. A brief sketch of the history of the Memorial was made by Dr. William Allen Pusey, after which he introduced, as presiding officer, the Hon. Charles G. Dawes, vice-president of the United States. In addition to General Dawes, the other speakers of the evening were Prof. Gordon J. Laing of the University of Chicago and the ambassador of France.

Seven Gaily Bordered Handkerchiefs

by Ida Spaeth

SEVEN gaily bordered handkerchiefs lay in a little pink box all tied up with a white satin ribbon. "A handkerchief for every day in the week," said the handkerchief clerk proudly. One had a pink border, one a blue, one yellow, one purple, one green, one rose, and one white.

"I'm sorry to say good-by to you," said the handkerchief clerk, as she wrapped them up in tissue paper and tied the box with a gold cord, "but the Christmas messenger has come and so you must go."

"Where shall I take them?" asked the Christmas messenger anxiously.

"They must go to the very nicest little girl you can find. I want them to have a good home," said the handkerchief clerk. "Leave them with a princess. Only a little princess should have those lovely bordered handkerchiefs. She would love them."

"Well," said the Christmas messenger, "if they are to go to a princess, I shall have to look for a palace." So he tucked the pink box all wrapped in tissue paper and gold cord inside his big bag and hurried out through the snowy streets. On and on he went, past markets where Christmas turkeys were hanging in the windows, past bake shops where Christmas cakes were being baked, past candy shops where Christmas goodies were being packed. By and by he came to a huge house. Its chimney reached high up into the sky. It was made of stone and had two shining lamps at the front gate.

"This must be your new home," said the Christmas messenger to the pink box of handkerchiefs tucked away in his big bag. "We'll just peep in here and see if there is a little princess inside."

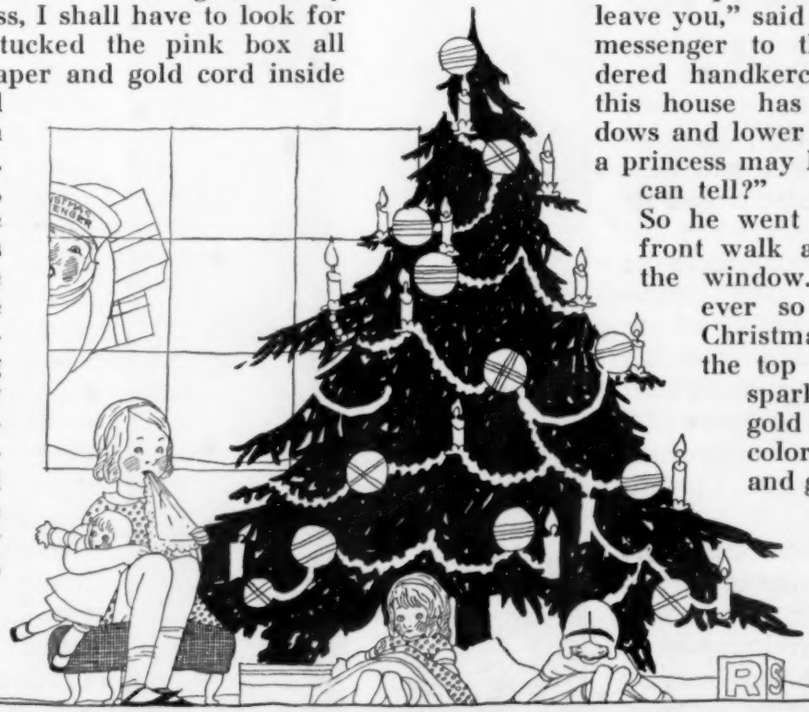
So the Christmas messenger peeped in the window and there he saw a room filled with all sorts of lovely things. Beautiful pictures were on the wall and a great many handsome dolls were lying around on the floor. A little girl was sitting under the Christmas tree chewing the corner of a lace handkerchief.

"Whew," said the Christmas messenger, "I almost saw that too late. This little girl is certainly not a princess, for no princess would chew the corner of her handkerchief."

So the Christmas messenger started on again. This time he passed tired little boys carrying Christmas baskets, little florists and helpers carrying Christmas flowers, big express wagons with their loads of Christmas trees, and he came to a middle sized house.

"Perhaps this is where I shall leave you," said the Christmas messenger to the gaily bordered handkerchiefs. "True, this house has smaller windows and lower chimneys, but a princess may live here; who can tell?"

So he went softly up the front walk and peeped in the window. Was there ever so wonderful a Christmas tree? From the top to the bottom sparkled tinsel and gold balls of every color, red and blue and green and rose and violet. Candy apples and



"A little girl was sitting under the Christmas tree - chewing the corner of a lace handkerchief"

"Seated close by was a little girl and right by her side was a very soiled handkerchief lying on the floor."

chocolate Santa Clauses swung gaily from the branches, and great strings of popcorn hung clear to the floor. Candles of every color sent their bright lights to the street. Under the tree were picture books and toy dishes and a toy stove. Seated close by was a little girl and right by her side was a very soiled handkerchief lying on the floor.

"Oh, oh, oh," said the Christmas messenger, "this little girl is surely not a princess. She doesn't even know how to care for a handkerchief. I can't leave the box of gaily bordered handkerchiefs here."

"a clean rag handkerchief was in her pocket!"

So he started on once more and finally came to a place where there were no Christmas turkeys hanging in shop windows, no big Christmas trees throwing out their bright, cheery light to the street, no Christmas cakes or goodies or baskets of flowers. The streets were narrow and the houses were very, very tiny.

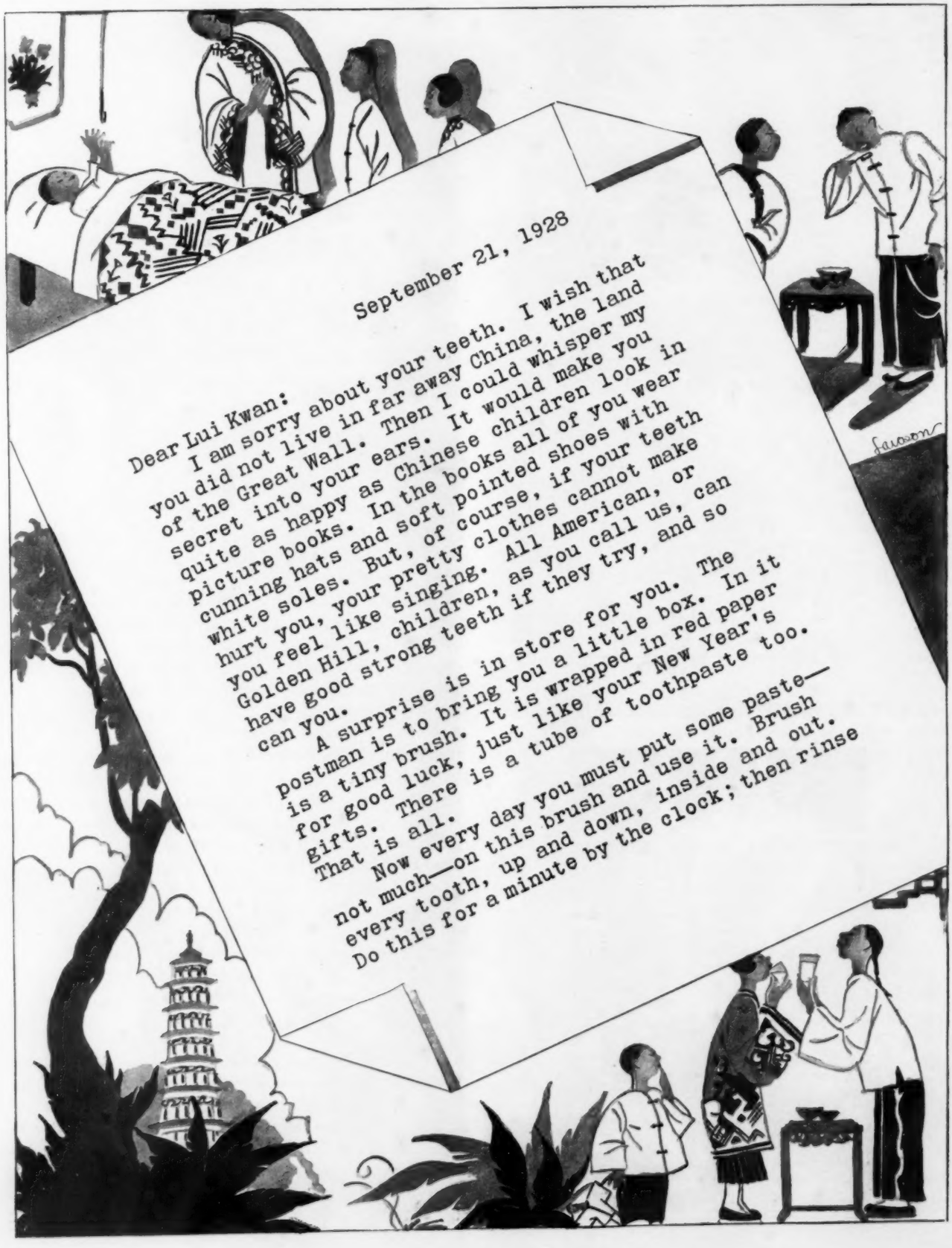
"Well, we musn't stay here long. A princess surely would never live in such a place," said the Christmas messenger. But as he was going by the tiniest of all the tiny houses, he heard a baby cry, and as the house was built right up to the street he peeped in the window. There by the dim light of one wee, little Christmas candle and a small fire in the kitchen stove was a little girl rocking her baby brother to sleep.

"But, see, what was that she took out of her little apron pocket," said the Christmas messenger all a t r e m b l e, "to dry the baby's tears and clean his nose? No lovely little gaily bordered handkerchief, but a clean rag handkerchief. And it was right in her pocket where it should be when not in use."

"I have found a princess for you," he exclaimed to the handkerchiefs in his big bag.

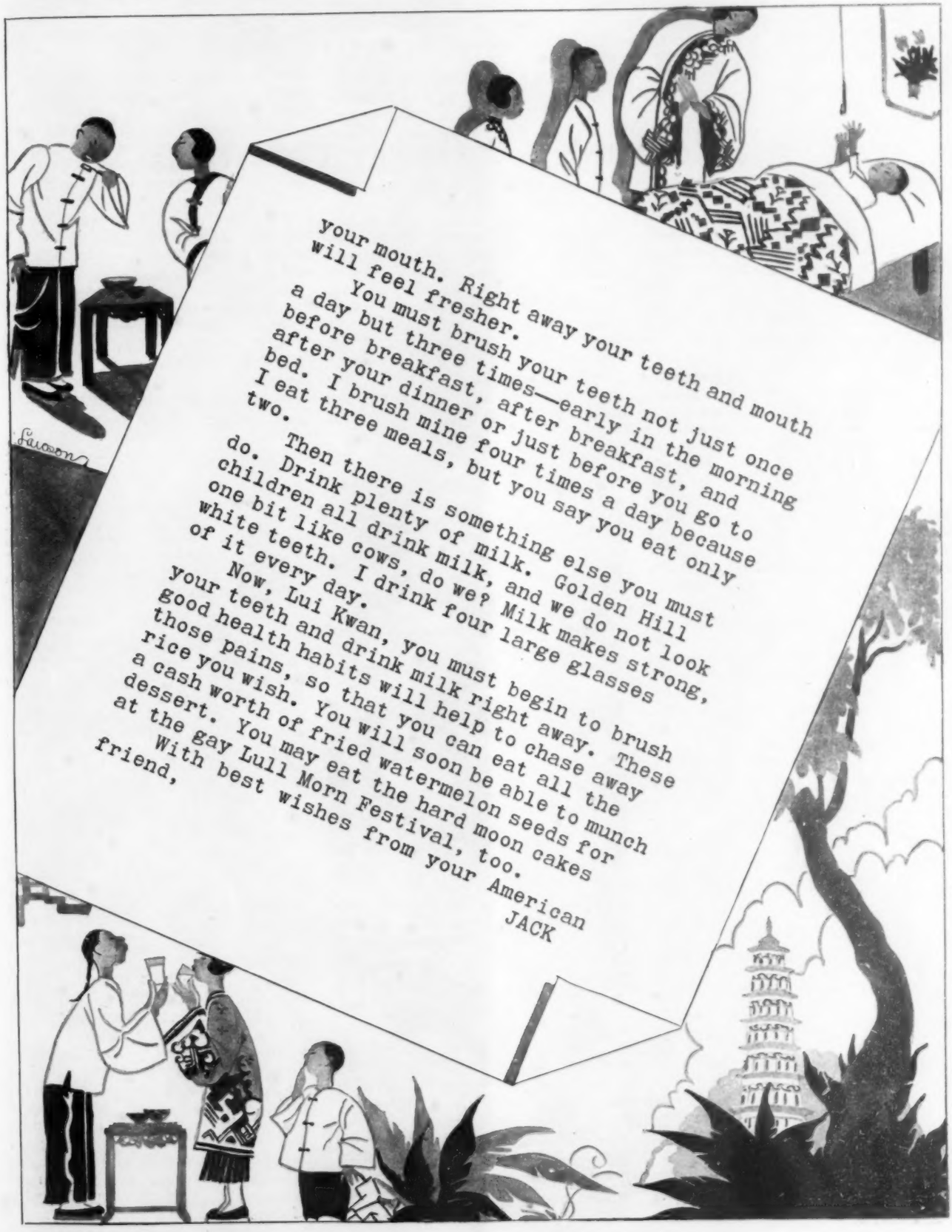
He rapped on the little brown door and left the gaily bordered handkerchiefs, one for every day in the week, wrapped in tissue paper and tied with a gold cord, hanging on the doorknob.

A Health Secret for Chinese Children


September 21, 1928
Dear Lui Kwan:
I am sorry about your teeth. I wish that you did not live in far away China, the land of the Great Wall. Then I could whisper my secret into your ears. It would make you quite as happy as Chinese children look in picture books. In the books all of you wear cunning hats and soft pointed shoes with white soles. But, of course, if your teeth hurt you, your pretty clothes cannot make you feel like singing. All American, or Golden Hill, children, as you call us, can have good strong teeth if they try, and so can you.
A surprise is in store for you. The postman is to bring you a little box. In it is a tiny brush. It is wrapped in red paper for good luck, just like your New Year's gifts. There is a tube of toothpaste too. That is all.
Now every day you must put some paste—not much—on this brush and use it. Brush every tooth, up and down, inside and out. Do this for a minute by the clock; then rinse
Jasson

A Letter to the Orient

By Katharine Ranger



your mouth. Right away your teeth and mouth will feel fresher.

You must brush your teeth not just once a day but three times—early in the morning before breakfast, after breakfast, and after your dinner or just before you go to bed. I brush mine four times a day because I eat three meals, but you say you eat only two.

Then there is something else you must do. Drink plenty of milk. Golden Hill children all drink milk, and we do not look one bit like cows, do we? Milk makes strong, white teeth. I drink four large glasses of it every day.

Now, Lui Kwan, you must begin to brush your teeth and drink milk right away. These good health habits will help to chase away those pains, so that you can eat all the rice you wish. You will soon be able to munch a cash worth of fried watermelon seeds for dessert. You may eat the hard moon cakes at the gay Lull Morn Festival, too.

With best wishes from your American friend,

JACK

HEALTH *and the* SCHOOL

Edited by

J. Mace Andress

A Safe, Sane and Happy Christmas

DECEMBER is one of the hardest months of the year for both teachers and pupils. Before vacation begins conditions inside and outside the school become abnormal. The abuse of the holidays often spoils what should be the merriest time of the year.

Teachers find the preparations for the Christmas holidays exhausting. There are new clothes to be made or purchased, and presents to be selected. There are piles of cards and packages to be directed and mailed. Invariably the regularity of the school program is disturbed by the innumerable projects that are undertaken in the schools to add to the gaiety of the season. The children under the stress of the hour usually become restless and difficult to control. There is little wonder, then, that the teacher starts the vacation seriously handicapped by her physical and mental condition as a result of too strenuous preparation.

Often the vacation contributes little or nothing to the teacher's well-being. With all the fatigue from travel, the overstimulus from parties, dances and theaters, the loss of sleep from keeping late hours and the dangers from overeating and infection, it is not uncommon for the teacher to return to her work after the vacation feeling anything but physically and mentally alert.

Children Feel Strain

Nearly everything that has been said about the teacher can also be said about school children except that since they have less self-control and are less immune to infections they may profit even less from the vacation. Children, like their parents, now do much more in preparation for Christmas than was done a decade ago. Pupils feel the nervous strain both at home and at school.

During the vacation parental authority is likely to be relaxed. There are big dinners, overeating (especially of candy and other sweets), excitement, late hours and visiting between families, with abundant chance for the transfer of colds and other diseases. As a result, before the vacation is over the doctor's visits increase. When the children return to school at the beginning of the new year, few show a gain in weight for the month of December. Many of them have lost. Thus Christmas from the point of view of health has not been a blessing.

It is easier to recount the unfortunate results of the abuse of the Christmas holidays than to suggest remedies that will be accepted by teachers and pupils. Immediately somebody says: "Well, who would expect everybody to go to bed at the same time and rigidly observe rules of health during vacation? Isn't vacation a time when one ought to get a thrill by not following the beaten track?" "Assuredly," we reply, "but one's activities should be governed by moderation and reason. Staying up late at night should be compensated for by naps and rest periods. Overeating, especially the overeating of sweets, ought to be avoided and one should be especially careful to keep from taking cold during the holidays.

Probably school executives by proper planning could relieve both teachers and pupils of much of the strain of prevacation days. Teachers and pupils by foreseeing the demands of the holidays may shop and make their preparations earlier. During the vacation teachers have a chance to exercise the self-control that they preach to their pupils in health lessons.

Plan Healthful Yule

It is not so easy for the teachers to influence the behavior of their pupils during the vacation, since they are beyond their immediate control. But often they may make suggestions to parents and may advise pupils who are in special need of healthful vacations. All teachers may take the opportunity to talk over with their pupils the problem of how to plan a safe, sane and healthful Christmas.

The editor of this department would be pleased to hear from teachers about successful ways of meeting the health problems of the Christmas holidays.

May I also suggest that ere the festival of Christmas closes we teachers take a little time to ponder over the meaning of this day with its wholesome thoughts on "peace on earth, good will toward men," so that something of its peace and quiet may enter our souls. May it be a time when we make merry, pile the Yule logs higher, tell stories, sing carols, meet old friends, give ourselves as well as our gifts, reflect on the goodness of the world, take fresh courage and get a new grip on a wholesome philosophy of life!

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

MEASURING HEALTH TEACHING

THE hardest thing that a teacher of hygiene has to do is to determine whether or not the course that she is teaching has benefited the child. I have found a few devices useful in measuring improvement.

I use an information blank that deals with practical questions about health, especially the bad habits that can be eradicated through study in the course. These blanks are filled out at the beginning of the term, and again at the end of the term; then I compare them to see how much improvement has been made. This plan shows the teacher the weak points that she will have to stress.

Compare Health Scores

Probably the most valuable aid that I use is a test prepared by Arthur I. Gates and Ruth Strang of Columbia University. This test is composed of a large number of multiple choice questions in regard to hygiene and healthful living. I give it at the beginning of the term and at the end of the term and compare the scores made at both times. I make graphs to show how the scores rank, and it is surprising to see the increasing number of perfect scores. In practically every case improvement is made. The questions are never directly discussed in class except as they appear for discussion in the daily lessons.

At the beginning of the term I have the pupils make a list of all their bad health habits and at the end of the term they revise this list to see how many of the habits they have been able to break.

Pupils are required to keep health cards that include eleven health chores. These cards are turned in once a month and the number of chores done is recorded. In almost every case the number of chores done will increase. A weight record is kept for each child.

One of the most interesting teaching devices in our school was a clean hand contest held last year between classes. Each child who had clean hands received one mile toward a goal at a distance of 1,000 miles. The class to get there first won. Strings were stretched across the blackboard, and the hands were moved along as they gained in distance.

Before we had the contest between classes we had a clean hand and dirty hand contest. This was on the same principle, only we moved dirty hands up according to the number of miles. It was remarkable how pupils cleaned up their hands. In connection with this contest I used some wash-up charts sent out by a soap manufacturing plant.

Another helpful device is a bulletin board on which each pupil's name is written. When I see pupils sticking their pencils in their mouths, or not sitting in correct position, I erase their names. I have changed this method several times. One week I made a list of all the pupils in the class and every time I saw one of them violate a health rule I put a check mark after his name. At the end of the week these marks were put on the bulletin board. They were all anxious to see how many marks they had.

There was good natured rivalry among members of the class to see which could get the fewest check marks.

The bulletin board is always interesting to pupils. I post there interesting articles and pictures on health. The pupils also make contributions from their own reading and observation.

The Teacher's Example

I think the teacher's health is an important factor in the teaching of health to children. I think she should not require her pupils to live up to health standards unless she lives up to them herself. She should realize that health means more than mere freedom from disease, and it should be her purpose to teach this conception to her pupils.

ALICE BERKSHIRE,
Miami, Okla.

JUDGING HEALTH FILMS

A Pennsylvania teacher in charge of visual education has asked this department to point out the features that make a good health film for use in schools. Because of the increasing use of health films this subject is of vital importance. There are at least four questions that should be kept in mind in the choice of a health film:

1. Is it scientifically accurate? Often a film is either inaccurate scientifically or it stresses one aspect of a subject to the neglect of others. This is especially true of films furnished free by commercial concerns that are interested primarily in the sale of their products rather than in health. Thus a manufacturer of toothpaste through motion pictures offered to the public may give the idea that dental hygiene is entirely a matter of keeping the teeth clean.

2. Is it educational? A film may present accurate information but it may not be worth while to take the children's time to look at it. One needs to ask the famous question of Spencer: "What knowledge is of most worth?" Health educators today believe that information that suggests action and healthy living is most valuable.

3. Is it conducive to wholesome attitudes? Often a film is accurate and presents worth while information but overemphasizes disease or tends to arouse fear. Children should know something about immunization against diphtheria but a motion picture showing fear on the children's faces would be pernicious. Health films may be dreary and dreadful instead of being toned with hope, joy and even fun. Pictures that are artistically beautiful and suggest courage and service are especially worth while.

4. Is it adapted to the age and interests of the pupils? A film that is interesting and profitable for older children may be dull and worthless for younger children.

Even after a film has successfully met these four requirements it may have little educational value because it is not used as the basis of some real teaching. Possibly the pupils have just been entertained and failed completely to grasp the deeper significance of the lesson.

Some teachers are careful to have their pupils prepared through their class work for what they are going to see. They have a list of questions that can be answered only by a careful observation of the pictures. Then after the film has been shown the teacher provides a chance for class discussion. The health film should be a stimulus for further observation, reading and thinking and above all an incentive to healthful living.

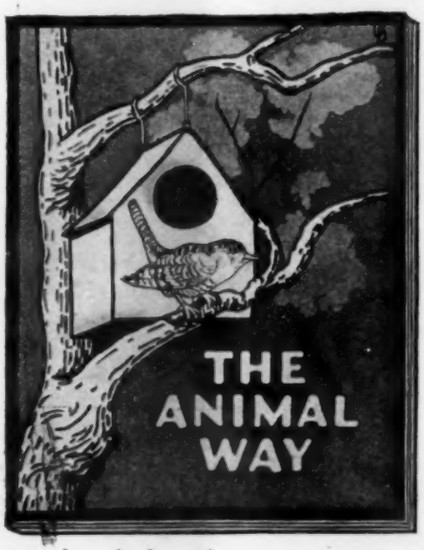
Health Books, Pamphlets and Materials for Teachers

THE movement for the teaching of health rather than formal physiology, which began after the war, had its origin in the early grades. The early child health literature was also developed first for the lower grades. As the movement has got under way it has crept slowly along from the lower to the upper grades. The high school has showed little response to the demand for health teaching. General culture, knowledge for the sake of knowledge, and college entrance requirements are the goals that still attract rather than training for life.

"Health Trends in Secondary Education,"[1] which sums up the significant tendencies among the best high schools and offers forward looking suggestions for the future, is therefore of more than passing value. According to this publication there are three types of service in the high school program. The first provides for a sanitary school environment and the practice of personal health habits by the student during his school hours; the second, the supervision of the health of the individual student as measured by health status and behavior; and the third includes all the contributions to health knowledge, practices and ideals which can be made incidental to the teaching of the subjects of the high school curriculum and through the conduct of extra-curricular activities. Systematically and with insight into school conditions the authors have shown how these goals may be achieved.

In the opinion of the reviewer there is only one slight defect. The plan of health education is based entirely on the coordination of school subjects and activities rather than being based in part on a regular course or courses in health. It is highly desirable to have health correlated with biology, general science, chemistry, civics and other subjects but frequently in most schools the teacher of mathematics, for example, is likely to be so interested in the narrow confines of his own particular subject that he is not willing to teach health even incidentally.

Under such a program some students will slip through the grades without any systematic instruction in health and then in high school will receive health instruction incidentally in mathematics and history. What is everybody's business is usually nobody's business. The reviewer believes that every high school student should receive a systematic course in hygiene in the high school. Although differing from the compilers and authors of this publication in this one particular the reviewer believes that this is the most important contribution to the health literature of the secondary school that has been made. Chapter VIII on "Mental, Emotional and Social Health" is particularly good.



Cover design of Broadhurst book.

School histories are filled with stories of heroes of war. Napoleon, Wellington, Caesar, Grant and Foch and their associates greet us on almost every page. The glamor and glory of war seem to be the chief concern of most historians and yet the stability of modern civilization rests to a much greater extent upon the achievements of the heroes of peace. Among the latter are to be counted as of first importance the great health heroes who have absolutely conquered some diseases and still continue their assaults against such unvanquished foes as cancer and most forms of pneumonia.

Grace T. Hallock and Dr. C. E. Turner have rendered the cause of health education a distinct service in the preparation of two unique books, "Louis Pasteur"[2] and "Edward Jenner,"[3] telling the stories of two of the most superb fighters against disease. They present much valuable material that has not hitherto been available to school pupils and in a form that will stimulate their interest. They would be exceedingly valuable as supplementary books in a basal course in hygiene in the junior high school.

Dr. Jean Broadhurst, a biologist with a national reputation, has written an attractive book on cleanliness called "The Animal Way."[4] It is evident that she understands and enjoys childhood. Through colored pictures, rhymes and an appeal to the puzzle instinct she presents the subject of cleanliness so that kindergarten and first and second grade children will find the matter of cleanliness entertaining. Wide awake teachers will welcome this little book.

A series of outlines on health teaching for the various grades comes from the Cleveland public schools.[5] The slogan on the cover, "The Child's Health Is Affected Not by What He Knows but by What He Does," stamps this course of study as modern in its point of view. It is clear, logical and practical. Unfortunately in places there is a questionable psychology. Thus on page 32 occurs the following:

"Train children to keep hands and materials away from their faces. The teacher should observe this habit daily when the children are not conscious of the fact. Afterwards she should place on the board the names of those putting things up to faces. Improvement can be noted as the list becomes smaller."

The practice of advertising conspicuously the children who fail is bad pedagogy. It would be better to put on the board the names of those who were conspicuous because of their success and try to stimulate the laggards by such examples. In the case of those who violated this rule habitually a tactful appeal by the teacher privately might be effective.

1. Pp. 153. American Child Health Association, New York.

2. By Grace T. Hallock and C. E. Turner. Pp. 238. D. C. Heath & Company, Boston, 1928.

3. By Grace T. Hallock and C. E. Turner. Pp. 204. D. C. Heath & Company, Boston, 1928.

4. By Jean Broadhurst. Pp. 40. Cleanliness Institute, New York.

5. HEALTH EDUCATION, GRADE ONE, CLEVELAND PUBLIC SCHOOLS (TENTATIVE OUTLINE).

The classroom teachers do the real work of educating. Their superiors may plan but they bear the brunt of the battle. Their experience provides the test of theories and the basis for further

Scene from a Christmas health play by pupils of "The Sunshine School."

experimentation. One approaches the classroom teacher's yearbook [6] in anticipation of finding something worth while on teaching health, but the book is a disappointment. Out of some forty special articles history, civics, geography and other school subjects receive their share of attention but there is not a single article devoted to the teaching of health, and the majority of them do not show how their scheme or method of teaching might include health activities. For example, beginning on page 23 there is an excellent article on "The Building of a Playhouse." This project offers an excellent opportunity for the consideration of health problems yet health is entirely avoided.

This publication does show the influence of mental hygiene. Frequent reference is made to desirable attitudes. From the point of view of the health educator the most important article is "Case Studies by the Classroom Teacher," by Elizabeth H. Burrell. Many of these cases are concerned with health problems, particularly mental health problems.

"The Sunshine School" [7] gives a picture of a modern school operating under conditions that make for healthy, happy living. The text is well illustrated in color and has many practical exercises at the end of each chapter. The book is adapted for pupils in the second grade. The methods of health teaching adopted by the text are based on the unusually successful health work accomplished in the schools of Newton, Mass., under the direction of Miss Bragg.

A capital text for a course in elementary bacteriology is "Elementary Biology." [8] It is so free from technical language and written in such a readable style that it would be a good book for every teacher to read. Probably few grade teachers or special instructors in hygiene in high schools have had courses in bacteriology, yet every teacher should be familiar with the fundamental facts since bacteriology is the basis of most of our modern medicine and hygiene. How many people today, even teachers, believe that disease germs may breed in stagnant water, decayed vegetables and bad surroundings? How many suspect that disease-producing organisms are always the descendants of similar disease-producing organisms?

In addition to its scientific value, some of the pages of this book have distinct literary charm.

"The Voyage of Growing Up" [9] and "Community Health" [10] are two attractive volumes of the Malden Health Series edited by Dr. Turner of the Massachusetts Institute of Technology. The first volume is adapted for a third or fourth grade and the second for junior high schools.

Until quite recently the health of the child was thought of solely in terms of tonsils, adenoids, teeth, posture and other physical characteristics. The movement of mental health has emphasized the fact that a child may have healthy organs and yet be unable to meet the situations of life with success because of bad attitudes or for other reasons purely mental. In other words he is in ill health mentally. Dr. Averill with keen discrimination has selected from the literature of mental hygiene material with which all teachers should be familiar. In "The Hygiene of Instruction" [11] he presents it in an interesting way and in language so free from technicality that it can be understood.

This book would be admirable as a textbook in normal schools and teachers' reading circles. It would be a good book for the teacher to add to her own private library.

A carefully worked out list [12] of references in recent health literature on cleanliness is published under the title of "Cleanliness—A List of Recent Publications." This is a valuable publication for teachers who wish to collect supplementary material on this subject.

The modern battle against disease is not local or even national; it is a mutual concern of all nations. When the plague breaks out in India it is not only her misfortune but the disease threatens every part of the world. Some people may doubt the effectiveness of the League of Nations in promoting peace but meanwhile the League is giving us for the first time in history a true world-wide system of disease reporting. Through its leadership the nations of the world, even those outside of the League like the United States, cooperate in this merciful conquest of disease. Teachers of the upper grades

The teacher plays with the pupils at "The Sunshine School."

and high schools will find in the League's first pamphlet [13] and others of the series material for one or more practical and stimulating lessons.

6. THE SECOND YEARBOOK OF THE DEPARTMENT OF CLASSROOM TEACHERS. Pp. 248. Published by the Department of Classroom Teachers of the National Education Association, Washington, D. C., 1927.

7. By J. Mace Andress and Mabel C. Bragg. Pp. 185. Ginn and Company, Boston.

8. By Joseph E. Greaves and Evelyn C. Greaves. Pp. 506. W. B. Saunders Company, Philadelphia.

9. By C. E. Turner and Grace T. Hallock. Pp. 192. D. C. Heath & Company, Boston, 1928.

10. By C. E. Turner and Georgie B. Collins. Pp. 258. D. C. Heath & Company, Boston, 1928.

11. A STUDY OF THE MENTAL HEALTH OF THE SCHOOL CHILD. By Lawrence Augustus Averill. Pp. 386. Houghton, Mifflin Company, Boston, 1928.

12. Pp. 41. Cleanliness Institute, New York.

13. THE UNITED STATES AND THE LEAGUE, No. 1, INTERNATIONAL HEALTH, THE LEAGUE OF NATIONS NONPARTISAN ASSOCIATION, INC. Pp. 11. New York, 1928.

New Books *on* Health

Reviews of Interest to General Reader, Parent and Teacher

CHEMISTRY IN MEDICINE

Edited by Julius Stieglitz. Pp. 757. Price $2. The Chemical Foundation, Inc., New York, 1928.

FROM the earliest times human beings have sought the plants of the field, the waters of the earth, indeed every substance existing in nature which might have an effect on the human body, in order that these effects might be advantageously used to aid the tissues of the body in recovering from disease.

Thus laxative substances were known to the ancient Egyptians, sleep producing drugs are mentioned in the legends of the Arabian Nights, and the alchemists of the middle ages knew the properties of lead, arsenic, antimony, mercury and iron. Paracelsus wrought marvels with laudanum brought from the Orient. Even in those days there existed preparations made from the organs of animals, but they were used without any actual recognition of their real effects on the human body. Centuries ago, the Countess of Cinchon found that the natives of South America were using Peruvian bark for the cure of malaria, so that cinchona and quinine became recognized as specific in the control of this disease.

Some research workers developed methods for the testing of drug preparations on animals, and there appeared the science of pharmacology, which deals with the actions and uses of drugs. Constantly, however, pharmacology, physiology and pathology, basic medical sciences, have been forced to return to chemistry in order to understand the fundamental nature of the substances used and in many instances that these substances might be reproduced synthetically at lower prices and with greater purity for the advantage of the practice of medicine. Hence the cooperation between chemistry and medical science has become closer and closer and more and more intensive.

The search is no longer for the panacea or cure-all; no longer for the magical elixir which taken from a flask will restore youth or prolong life. The search today is for the specific preparation that will attack the germs that cause disease and drive them from the human body, for the drug that will lower the blood pressure or raise it, hasten the heart beat or slow it, encourage or delay the action of the intestinal tract, for the product derived from living tissue which will supplement the action of a deficient gland or overcome the excess action leading to mortality. Specific preparations against diphtheria, scarlet fever, syphilis, diabetes and many other diseases are as responsible as any other factors for the prolongation of life that has taken place during the last hundred years. But the unsolved problems are legion as compared with the small beginnings already made by medicine in its attack on disease.

In order that the public might be informed of the things that have been accomplished and of the problems still awaiting solution, the Chemical Foundation has just issued a symposium under the editorship of the distinguished professor of chemistry of the University of Chicago and with the assistance of five advisory editors, covering most of the relationships of chemistry to human life. Almost half a hundred authorities contributed notable essays to the volume. The problems of heredity, the story of the vitamins, the conquest of dietary diseases, the alleviation of suffering, and the war on germs are only a few of the headings in this tremendously informative volume.

The book is printed on thin stock with good black type, handsomely bound, and supplemented by an adequate glossary and index. It represents a notable contribution to the field of public health education, a reference work for high school and university, indeed a landmark from which new explorations in the fields of chemistry and medicine may take their departure.

MORRIS FISHBEIN, M.D.

The spirit of the Barnard College Greek games, frontispiece of "The Health of Youth."

THE HEALTH OF YOUTH

By Florence L. Meredith. Pp. 535, with 175 illustrations. Price $1.60. P. Blakiston's Son & Co., Philadelphia, 1928.

THE title of this volume hardly expresses its nature. It is in every sense of the word a good textbook on hygiene for students of high school years and indeed even for freshmen in college. The position of the author as professor of hygiene at Tufts College and her experience in this field lend the volume the necessary authoritative character.

Cursory review of the book indicates that she is familiar with current literature in the field and that she has kept pace with human interest in the subject. The approach is rational and not marred by the Polyanna attitude of overenthusiasm which makes some recent contributions to the field resemble more the literature of the patent medicine than that of sound hygiene. Summaries following the individual chapters, well chosen illustrations, tabular data, and other sound educational methods augment a well written, easily understandable text. MORRIS FISHBEIN, M.D.

News *and* Views

From the

FIELD OF HEALTH

TO OBSERVE NATIONAL CHILD LABOR DAY

Standards for a good child labor law are formulated by the National Child Labor Committee as a basis for the observance of National Child Labor Day. The fact that much of the work of the world is carried on by children, who are thus deprived of opportunity for education and exposed to serious health hazards, will be brought before the people of the United States through synagogues on January 26, through churches on January 27 and through schools and clubs on January 28.

The minimum standards for the employment of children are:

1. No child under 14 shall be employed for profit.

2. No child under 16 shall be employed at any work that is injurious or hazardous; after 7 o'clock at night or before 6 in the morning; for more than eight hours a day, six days and forty-eight hours a week; during school hours unless the child has completed the eighth grade; without a work permit showing promise of employment, proof of age, school record and certificate of physical fitness from an authorized physician.

3. No child under 18 years shall be employed at any place or at any work dangerous, injurious or hazardous for children under 18.

DON'T CLASSIFY HEALTH AS LUXURY

Health work should be counted among the necessities and not among the luxuries of every family, declared a speaker at the recent convention of the American Public Health Association. Families that have automobiles, radios and victrolas too often report that they "can't afford" to have their children's teeth fixed.

Public school teachers have the greatest opportunity to combat this attitude. The speaker cited the case of Malden, Mass., where 6,000 children attend elementary public schools. One year's survey brought out conditions and showed how they could be remedied. As a result of this stimulation through the schools 1,900 more children had clean teeth than the previous year and 360 more had teeth repaired.

COLOR INVADES EVEN OPERATING ROOMS

Operating rooms are not cheerful places at best, but the newer hospitals are using every possible device to remove from them the atmosphere of terror. Glaring white walls have been toned down to green and tools are housed in inconspicuous cabinets in the walls in the hospitals of the new Medical Center in New York. The newest note of modern planning is seen in the operating theater where students are instructed. Instead of the old-fashioned theater seats, students now sit on saddles like those on bicycles. This is said to economize space and give a better view of the operations.

NORTH CAROLINA CATTLE TUBERCULOSIS-FREE

North Carolina is the first state in the United States to be declared practically free from bovine tuberculosis by the U. S. Department of Agriculture, a bulletin announces.

This means that North Carolina has completed systematic tuberculin testing of all cattle within its borders, numbering 600,000 head. The testing was begun in 1917 and was completed early in October, 1928. The number of cattle found to be tuberculous amounted to 3,877, or six tenths of 1 per cent. All animals reacting to the test were removed for slaughter and the owners were reimbursed by the government.

This achievement, which means that North Carolina children are thus protected from contracting tuberculosis through milk from tuberculous cows, was made as a part of a nation-wide campaign for the eradication of bovine tuberculosis. Since the campaign was begun in 1917 the degree of infection throughout the United States has been reduced from 4 per cent to 2 per cent.

TRAIN HEART PATIENTS FOR SAFE OCCUPATIONS

Children with heart disease should be encouraged to continue their education beyond the elementary grades if their condition does not limit their activity too greatly, Dr. Joseph Bainton urges in the *American Journal of Public Health.*

Although physical exertion does not usually produce heart failure in children, their education must prepare them for adult life along lines that will not require too much physical activity. The child with heart trouble needs adequate education even more than does the average healthy child, since it opens to him opportunities more likely to conform to his capacity. Most of the work of the uneducated and unskilled is of a laborious nature, and therefore unsuitable for persons with heart disease.

Children who are able to continue their education through high school and college will be fitted for employment in which there will be practically no danger of overstrain. Such training will prevent a morbid fear of heart disease and make the handicapped realize that they can lead useful, happy lives.

MOTOR CLUB SETS UP FIRST AID STATIONS

With the increase in motor accidents, the Touring Club of France has established first aid stations at some of the most dangerous points on the principal roads leading out of Paris, the Paris correspondent of *The Journal* of the American Medical Association reports. They are located in garages, cafés and even in private homes. Each is designated by a guidepost and manned by three aides.

When an accident is reported one of the aides calls the physician attached to that sector. The others go to the scene with a stretcher, surgical dressings and an emergency splint. They also take a blue flag bearing a red cross and the letters TC. This constitutes an S O S signal to passing motorists, who stop to help. The aides have had first aid training and are able to do much for the comfort of the injured while a doctor is coming.

Pacific and Atlantic

NOVELTY IN WINTER SPORTS

On the snow-blown ice fields of Sweden, hand sailing is a favorite among the innumerable winter sports that ingenious enthusiasts have devised.

Acme

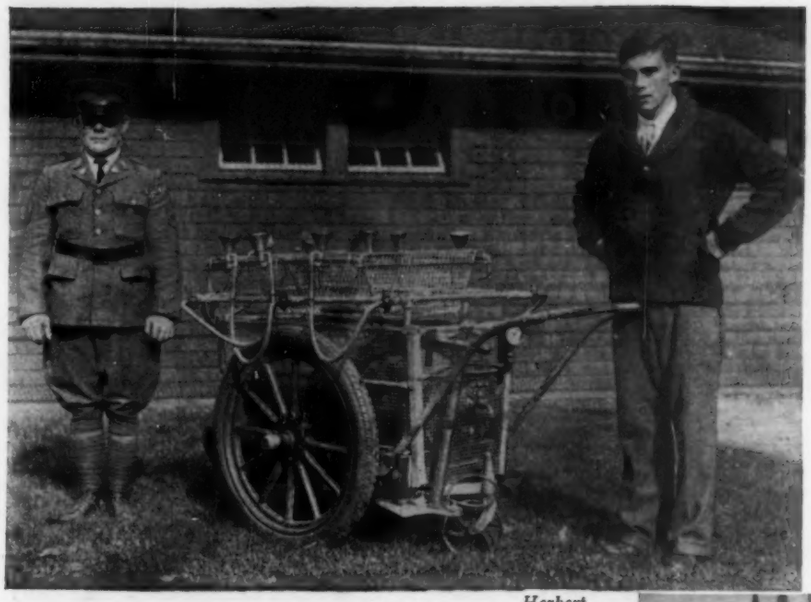
A LESSON IN BATHING

Many cities maintain health centers where public health nurses teach young and inexperienced mothers how to arrange the baby's bath. Here are shown the tiny tub, the warm towels, the boric acid, the sterile cotton and the other simple accessories for making the baby safe and comfortable.

ISABELLA GIVES HER JEWELS

Children of St. Boniface's parochial school, New York, acted the story of Columbus in a pageant given on Columbus Day as part of the work of the Bellevue-Yorkville Health Demonstration.

Keystone



Herbert

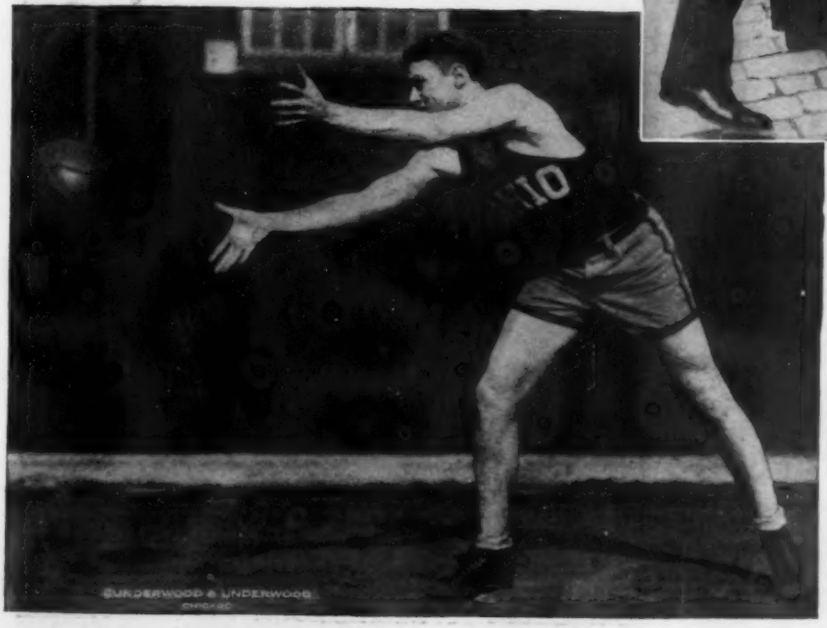
WEST POINT'S WATER WAGON

The "regimental bhisti" of the West Point football team pushes this unique water wagon on the field to relieve the players' parched throats. Filled with fifty gallons of water from the Academy's own water supply, it accompanies the team on all trips.

CENTENARIAN EXERCISES VOTING PRIVILEGE

Hale and hearty at the age of 102, the mother of Admiral Lindman, leader of the conservative party in Sweden, insisted on being carried to the polls to vote in the recent elections in Stockholm.

Pacific and Atlantic

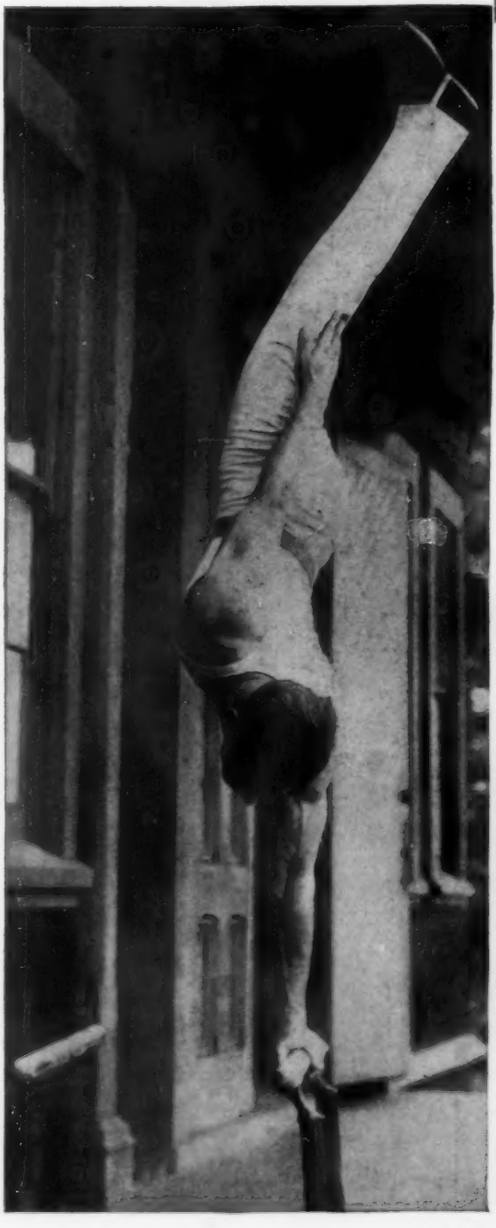


NEXT ON THE SPORT PROGRAM

As winter closes in on the football season sport fans transfer their allegiance to basketball.

CLEANING DAY IN AN ARMY POST

Cleanliness in the U. S. Army really means being clean, for inspectors have an uncomfortable way of ferreting out the minutest specks of dust. Brooms and mops replaced rifles and bayonets when the post at Governor's Island, N. Y., underwent its fall cleaning at the hands of this bucket squad.

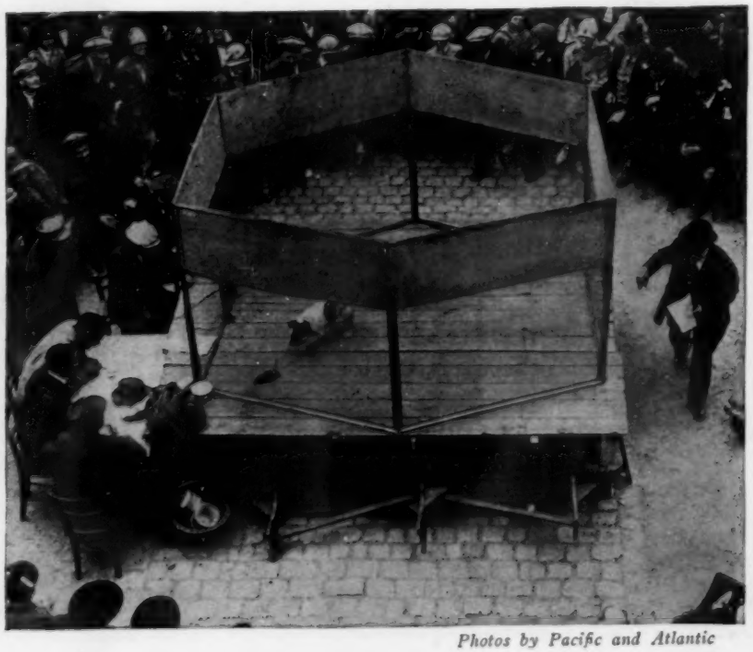


SPEAKING OF HANDICAPS

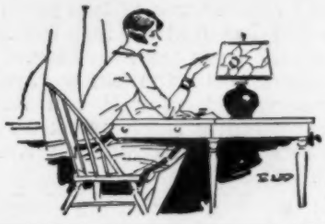
This picture requires close observation to discover that the gymnast balancing himself so expertly has only one leg. Last year he won the Pacific Coast all-round gymnastic championship in the state meet in competition with normal men.

DOG IS MODERN PIED PIPER

No pied piper of Hamelin is needed in the city of Arpajon, France, where a dog killed a rat in two seconds after it was liberated into the cage shown here. This feat was accomplished in a rat-killing competition held to arouse interest in the breeding of rat-killing dogs, because rats are doing serious damage to foodstuffs in France.



Photos by Pacific and Atlantic



Questions *and* Answers

If you have a question relating to health, write to "Questions and Answers," Hygeia, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed.

Grit in Pears

To the Editor:—Do you regard the grit in pears harmful to the health of the consumer? The Kiefer pear, which is largely grown in the South, contains a mass of this grit, which passes through the human body in about the same manner as the seeds of strawberries and blackberries.

R. S. W., Tennessee.

Answer.—There is probably no harm in the grit in pears any more than there is in the seeds of the fruits mentioned. In the early days of appendicitis—that is, after the discovery of appendicitis by the late Dr. Reginald Fitz—it was a common impression that appendicitis was usually due to the lodgment in the appendix of a grape seed or fruit seed of some sort. That is not the case.

Shrinking Gums

To the Editor:—What is the cause of shrinking of the gums in a person who wears false teeth? Would using a dental plate powder that is supposed to keep false teeth in place do any good? Some dental plate powders claim to prevent gum shrinkage. Will any harm be done in the continuous use of a dental plate powder? What can be done to stop gum shrinkage in a woman in her late fifties, whose gums were in such bad condition from pyorrhea that she could not get her false teeth until three months after her own were pulled? The teeth did not fit well, the lower plate especially, and now after using them four months she has been told her gums are shrinking.

N. L., Illinois.

Answer.—After teeth are extracted, the bone that formerly surrounded the roots begins to be absorbed. This process goes on slowly, often lasting as long as a year. Unless this bone is surgically removed with the teeth, there is certain shrinkage of the gums throughout the first year following extraction as a result of this bone absorption. Usually a temporary plate is made; this is made over or an entirely new plate is made after all the shrinkage has occurred. Plate powder is not harmful but is only a temporary relief. Getting used to plates requires patience.

Premature Baby

To the Editor:—A seven-month baby weighing only 2 pounds 14 ounces lived only three weeks. The child's mother had her thyroid gland removed when she was two months pregnant. It is claimed the baby was born without a thyroid gland. Could the baby have lived three weeks if it was born without this gland? The baby seemed strong, could cry loudly, and drank from a bottle, as the mother had no milk.

R. B., New York.

Answer.—The statement that the baby was born without a thyroid gland seems doubtful. The operation on the mother at the state of pregnancy mentioned would have no influence on the development of the thyroid in the infant, according to present knowledge of heredity.

The facts that the mother had no breast milk and that the baby was born after seven months are ample to account for the death of the infant.

Breast Pump

To the Editor:—Since my babies came, my breasts have become much smaller and very flabby. Could any harm result from the use of a breast pump that works on the principle of a vacuum? Is there danger of overdevelopment? I have seen this machine advertised and should like to try it if it is safe.

I. E. W., West Virginia.

Answer.—Breast pumps work on the vacuum principle and serve a useful purpose during the period of nursing when the breasts are small, and especially when the nipples are poorly developed or tender. Massage and manipulation of the breast properly done accomplish much the same purpose. There is little danger of overdevelopment from such methods.

Speech Defects

To the Editor:—I have just reread your article "Public Schools Should Combat Speech Ills" in the September Hygeia. My boys, twins, aged 5½ years, come under the division of "careless and indistinct articulation." Could you refer me to books I could use in order to do a better job in correcting the defect? Our rural schools do practically nothing along this line.

C. M. B., Missouri.

Answer.—A recognized authority on speech defects recommends for a mother unfamiliar with the problem, "The Correction of Speech Defects," by Helen M. Peppard, the Macmillan Company, New York, 1925. If the condition is serious, it may be necessary to consult a specialist.

Diet in Diabetes

To the Editor:—Could Certo be used to make diabetic jams and marmalade? What is it made of? Would it hurt any one with this disease?

C. M. T., Canada.

Answer.—Certo is a commercial form of pectin, which is the natural constituent of fruit juices from which jelly can be made. Certo is added to fruit juices that contain too little natural pectin to jelly, but sugar must be used in addition. There is no satisfactory way for making healthful substitutes for jam and jelly for a diabetic patient.

If diabetes is treated according to the best methods, any food whose composition is known may be used in a diet. It is now known that sugar is formed in the human body, not only from sugar eaten as such, but also from starch, meats and fats. The only difference between a normal person and one with diabetes lies in the total amount of sugar that can be eaten in a day without a trace of it showing in the urine. A normal person can eat all the sugar he needs and then some, while a diabetic patient cannot.

By sugar is meant not only granulated sugar, but the total sugar content of the diet, including that obtained from meat and fat. If the maximum is known, its source makes no difference. It therefore

follows that even jam and jelly may be used in a diabetic diet with safety.

The two reasons that it is not usually done are: (1) The composition of jams and jellies varies, so that it is hard to be certain about their sugar content. The sugar content may vary from 50 to 85 per cent, and in most cases it is between 50 and 60 per cent. On this basis one level tablespoon of preserves would yield about 8 Gm. of sugar, which is the equivalent of the sugar content of one-half slice of bread, one serving of carrots, one serving of oranges, two eggs or one-half cup of cream. (2) Most diabetic patients prefer these foods instead of jam because they are more satisfying.

Conspicuous Hairs

To the Editor:—Within the last year I have noticed that hair has grown within my nose and it is now commencing to show. What could be used to bleach the hair, so that it would not be so noticeable? Is there much danger in having it removed with an electric needle? F. S., Minnesota.

Answer.—The little hairs, or vibrissae, at the entrance of the nostrils filter the air and prevent, to a large extent at least, the entrance of dust and other substances into the nose. The less manipulation of these hairs the better. Pulling them out as practiced by some persons is a bad procedure, first, because the hairs in some persons tend to get coarser the oftener they are plucked out; and, second, because infection of the hair follicles (the little pockets from which the hairs grow) often occurs and causes painful and at times serious involvement of the nasal orifice.

Cutting the hairs also is likely to make them coarse, but careful clipping at intervals with sharp scissors is the least objectionable method of keeping them inconspicuous. Bleaching the hairs with hydrogen peroxide will make them less conspicuous.

Alcohol Habit

To the Editor:—Is there any home treatment for the cure of the alcohol habit? I have a patient that is willing to make at least an effort to be cured.

C. P. D., Michigan.

Answer.—There is no drug or combination of drugs known that will cure the alcohol habit. The underlying causes of narcotic addiction lie in the personality of the individual. Each addict uses a narcotic for a reason or cause that is sufficient to himself. Alcohol is a narcotic, first, last and all the time.

The nature of the disorder that compels him to use narcotics is mostly psychic and not physical or physiologic. The solution of the drug evil does not rest on the administration of any specific cure but rather on the removal, if possible, of the underlying causes for which the drug addiction is merely an expression.

It will be necessary to take each individual patient, locate the cause of the addiction, then remedy or remove this cause before a successful result can be expected. The chances of recovery depend on the extent of mental deterioration and the character of the treatment. If patients already show moral deterioration, prolonged treatment is apt to be of little avail. In a short time they relapse into their former habits, becoming at last mental and physical wrecks. When taken early and submitted to an extended treatment many of them have a fair prospect of complete recovery.

Sun Treatment for Skin

To the Editor:—Is sun treatment lasting from one to two hours a day too much for a convalescent case of tuberculous skin on the face? I have found the sun a sure-fire eradicator of the red spots, although after a few weeks they have a tendency to return. After a week or two of the sun treatment the red places peel off and disappear. In about two months they reappear if I do not continue the sun bath. After an hour and a half exposure to the sun, the spots, which are small, become slightly irritated and itchy for a few hours. I usually stay in the sun an hour or an hour and a half in the morning and sometimes an hour in the afternoon. Sometimes after an unusually long exposure to the sun, some small red spots appear that were not there before, and they remain until the sun eradicates them. Is this exposure too severe or extended? I was treated for two years or more with the x-ray and the disease was held in check, but was never cured. The disease has left white scars on my face. Is there any method of getting rid of these scars or blemishes after the disease has disappeared for good?

C. U., Missouri.

Answer.—From this inadequate description it is impossible accurately to make the diagnosis. It is probable, however, that the inquirer has lupus erythematosus and not a tuberculous condition of the skin. Lupus erythematosus sometimes, though rarely, occurs in a more or less transitory and superficial form during its first few years. The patient should consult a specialist in diseases of the skin in order to ascertain the exact nature of his condition.

It is important that the patient have no more x-ray treatment, because in the course of two years he probably has had all that the skin in these areas can endure. As to exposure to the sun's rays, a person who tans well can easily and apparently safely work up his tolerance to more than an hour's treatment daily.

Fruit Acids

To the Editor:—Which acids and alkaloids are found in strawberries, raspberries, blackberries, dewberries and plums? Where can I buy a list of the fruits, berries and vegetables giving their acids and alkaloids?

W. T., Indiana.

Answer.—In an examination made by the U. S. bureau of chemistry three or four years ago, it was found that in strawberries about 90 per cent of the acid is citric and 10 per cent malic; in pineapples, 87 per cent of the acid is citric, 13 per cent malic; in red raspberries, 97 per cent citric, 3 per cent malic; in black raspberries, 100 per cent citric; in Concord grapes, 60 per cent malic, 40 per cent tartaric.

These three acids are common to practically all fruits. In bananas, for example, the acidity is mostly due to malic acid; in the cantaloup, to citric acid, and in the cherry to malic acid. Cranberries and currants contain some of both, as do gooseberries; peaches contain mostly malic acid, as do plums and quinces. While these fruits are acid to the taste, they are converted into carbonates in the body and so contribute to the alkaline condition of blood and tissues.

Enlarged Pores; Deviated Septum

To the Editor:—1. A baby three weeks premature has large pores on her nose and chin. Her mother and maternal grandfather have also, and I understand that x-rays somewhat age or atrophy the skin. Is there any way of reducing the pores that is advisable? If so, how soon should it be done? 2. How early in life is straightening of the septum advisable? B. C., Ohio.

Answer.—1. There is probably no occasion to worry over the large pores on a baby's face. Certainly x-ray treatment should not be given except on the advice of a physician who has had a large experience in this field.

2. Operation for straightening the septum is usually postponed until the baby reaches adult life unless there is serious interference in breathing which is certainly due to an abnormal septum and not to any other cause.

Vermifuge; Nasal Catarrh

To the Editor:—1. Jayne's vermifuge contains spigelia, sodii carbonas, oil of chenopodium, oil menthae piperitae, oil cassia, aqua pura and sufficient alcohol for extraction, solution and preservation. Is there anything in this list that is harmful to a 2 year old child? If so, what effect would it have? 2. Can you tell me if the application of 10 per cent argyrol solution inserted into the nasal cavity will relieve nasal catarrh of long standing? Is nasal catarrh contagious? B. J., Minnesota.

Answer.—1. Oil of chenopodium, as well as spigelia, is irritating to the intestines. In some cases it has produced bad results in children. Remedies for the expulsion of worms should not be taken except under the advice and direction of a physician. It is unwise to use any patent medicine such as the vermifuge mentioned.

2. The use of argyrol in the nose is not curative, only palliative, and not even this in the case of many persons. The discharge from most cases of nasal catarrh does not carry contagion.

Immunity Produced by Serums and Vaccines

To the Editor:—I should like to know how long serums or vaccines for the following diseases will make a person immune—smallpox, scarlet fever, diphtheria, typhoid fever and colds.
A. N. W., Missouri.

Answer.—Vaccination against smallpox protects a considerable number of persons throughout life, others for only five years and some for even less. It is regarded as a safe practice to have oneself vaccinated against smallpox at least every ten years and in times of epidemics more frequently than this. When a properly conducted vaccination with lymph of known potency is used and the vaccination fails to work after two repetitions, it is conclusive evidence that the person is still immune to smallpox.

Inoculation against scarlet fever is of too recent origin for one to tell accurately how long it will endure; probably it will last for some months at least. As to diphtheria, the toxin-antitoxin injections given in three stages apparently protect for some years. It is easy to determine both in scarlet fever and in diphtheria when immunity has been lost, by making the Dick test for scarlet fever and the Schick test for diphtheria. If one is no longer immune, the test is positive.

In the case of typhoid fever the inoculation lasts for most persons at least two or three years and in others for a longer period.

Inoculation against colds is believed by a great many of the best physicians not to confer immunity. It is therefore not recommended by them.

Heart Beat

To the Editor:—Which is more dangerous, rapid beating of the heart or slow beating of the heart? What does each denote?
P. P. K., Pennsylvania.

Answer.—Rapid beating of the heart is much more commonly a sign of serious heart trouble than is slow beating of the heart. Slow beating is, in many cases, an individual peculiarity, but in certain diseases becomes of serious moment.

Starch in Bread

To the Editor:—Which contains more starch, wheat bread or corn bread, and which is best for one to eat? Is corn bread fattening, and is it good for a diabetic? Does toasted bread contain as much starch as untoasted?
M. L. K., Virginia.

Answer.—Corn bread, as stated in the table showing the chemical composition of food material in a book on dietetics by Friedenwald and Ruhräh, is said to contain 46.3 per cent of carbohydrate (mostly starch) including fiber. White bread contains a varying amount, depending on whether it is in the form of rolls, soda biscuit or loaf bread. It ranges from 51 to 60 per cent.

All bread is fattening. It can be used in the food of a diabetic in moderate amount. The amount to be taken should be determined by the physician or dietitian in charge of the case.

No starch is removed from bread in the process of toasting, but as some of the water that is present in all fresh bread is evaporated in the process of toasting, the percentage of starch and of other solid constituents is increased.

Postural Drainage in Tuberculosis

To the Editor:—What is the correct method of producing postural drainage in pulmonary tuberculosis with cavity; that is, so that there is no chance of the secretions draining over into the good lung? Some time ago I was informed that a physician in the East was treating cavity cases by medication through a tube down through the trachea and into the lung. Have any advances been made in this method of treatment? A. O., California.

Answer.—There is no hard and fast rule in the application of "postural drainage." The patient can judge better for himself, after studying the subject. Let him observe which position gives him the best sputum output, whether it is the diseased or the healthy side. Lying with the chest and head over the side of the bed will often clear out the air passages and cavities so well that coughing is reduced or disappears for several hours. The ease with which the sputum is expelled depends on the physical character of the cavity and, naturally, on the position of the opening. The latter must be so placed in postural drainage that it may drain easily into a bronchus. Perhaps lying on one side will do the trick, perhaps the other. One should experiment a little.

Intratracheal treatment has been often attempted but has not been permanently successful. Such treatment with the amount of medicament limited has little chance when the disease condition is on the job constantly.

Carbon Tetrachloride

To the Editor:—Is carbon tetrachloride poisonous? What is its effect? A. J. J., Illinois.

Answer.—Carbon tetrachloride, which is sold under the trade name of carbona, as a cleaning fluid, is a poisonous drug. In its effects it is like chloroform and has been used to produce anesthesia. It is too poisonous to be safe as an anesthetic. It affects the liver, among other organs.

White vs. Whole Wheat Flour

To the Editor:—What are the relative merits or demerits of white flour as against the whole wheat flours? F. L. M., Iowa.

Answer.—Flour made of whole wheat undoubtedly contains certain vitamins in considerably larger amount than does white flour. If a person's diet consisted wholly of bread or articles made from flour, this would be an important item and whole wheat bread would be much better than white bread. For the vast majority of persons, however, bread is only one constituent of the diet, which consists further of milk and its products, of vegetables and fruits, of eggs and of meat. With such a mixed diet, all the essential vitamins are provided in abundance and the slight difference in amount in the content of whole wheat as against white bread is of small importance.

Whole wheat flour does not keep so well as white flour and in moist warm weather spoils rapidly. Whole wheat bread, moreover, does not appeal to the palate of a great many persons and insistence upon whole wheat as the only bread results in the eating of a smaller

quantity of bread. This is to be regarded seriously, because bread is one of the most useful and inexpensive of all foods.

The question became important during the World War, when we were feeding our soldiers in camp and abroad. At one time questionnaires were sent to recognized authorities in physical chemistry, dietetics and medicine by a commission headed by Dr. Alonzo H. Taylor, seeking expressions of opinion in regard to this matter. The vast weight of opinion was against insistence upon whole wheat bread.

Whole wheat flour, containing as it does the bran, gives a considerable amount of indigestible residue that promotes bowel movement and is helpful to some persons in this way. On the other hand, this roughage is irritating to the intestinal tract of others, just as is bran when used as a breakfast food.

Inherited Syphilis

To the Editor:—I recently learned that previous to and at the time of my birth my father had syphilis. I have no knowledge that my mother contracted it, but it is probable. What chance do I run of having inherited the disease? Would it not have manifested itself in childhood? I am a normal, healthy young woman past 20 and, aside from an occasional headache, am never ill. Would a Wassermann test be sufficient or must a spinal puncture also be done?

H. M., Maryland.

Answer.—It is improbable that the inquirer has inherited syphilis. If she is worried about the matter, the most sensible thing to do is to consult a physician who is especially skilled in this matter and have a careful examination accompanied by a Wassermann test, if he thinks this is necessary. It is unlikely that a spinal puncture would be thought advisable.

Electricity and High Blood Pressure

To the Editor:—Is any form of electricity of recognized value in the treatment of arteriosclerosis when coronary and cerebral arteries are involved? Obviously, the individual patient would have to be considered, but what I wish to know is whether physicians of standing do employ this mode of treatment. V. R., New York.

Answer.—A few years ago there was considerable discussion in medical literature about the use of certain forms of electricity, especially the high frequency current, in the treatment of high blood pressure, with which arteriosclerosis is often associated. There is no doubt but what this agent is one of several that will temporarily reduce blood pressure. There is no evidence, however, that it has any permanent effect on this condition or on arteriosclerosis. Physicians of standing and large experience in this matter do not regard this treatment as of great value.

Ringworm

To the Editor:—About two years ago a person contracted an itch between the toes. It gradually spread to the groin and seems to be spreading further; it is causing considerable annoyance. A physician diagnosed the itch to be ringworm, prescribing medicine to be applied locally and placing the patient on a strict diet. This was followed carefully and the condition was relieved for a while fairly well. However, at times the patient eats something that the diet list forbids and the trouble is renewed. From the results, does it appear that the disease seems to be incurable unless the patient adheres to a strict diet list at all times? E. H., New Jersey.

Answer.—The physician has made the correct diagnosis of the trouble. This ringworm, or fungus, infection occurring most commonly between the toes and sometimes quite extensively in other parts of the body has been a common infection, especially since the World War.

How much the diet has to do with the matter in an individual case varies greatly, but if adherence to such a diet as has been laid down, together with local application, succeeds in keeping the condition under control, it certainly is the wise thing to continue the treatment.

Alopecia Areata

To the Editor:—I want to know the cause of a little girl 6 years old losing her hair. At first it began falling out in patches, then on a larger scale, although the scalp has never become completely bald. Her parents cut her hair and have kept it closely clipped since. She is a child of Jugo-Slavic parentage, somewhat dark, and has never been sick. She has other brothers and sisters normal in every way.

W. J. K., Michigan.

Answer.—The condition described is in all probability alopecia areata. This disorder affects persons of all ages but is seen more frequently in children and young adults. The hair falls out in one or more patches, leaving the skin of the affected area free from hair and shining in appearance. At times the condition is extensive, involving large areas of the scalp and occasionally the entire scalp is completely free from hair.

No definite cause is known. Severe nervous strain or shock in some cases seems to be a factor. If there are only a few small bald spots, the hair usually grows again after a few weeks or months, and is normal in color. When large areas are involved or when the entire scalp is free from hair, no prediction can be made as to when the hair will grow again, regardless of the kind of treatment used. Stimulating treatment is indicated.

Nearsightedness

To the Editor:—I once read in a newspaper that epinephrine, a drug extracted from the suprarenal glands, is being tested as a remedy for nearsightedness. Upon inquiring, I was told to write to you about it. Will you please tell me what you can about it? I also should like to know of anything that will strengthen the eyes. J. T., New York.

Answer.—Epinephrine, obtained from the suprarenal glands, has only a transient or temporary effect on the muscles that have to do with the accommodation of the eye, and is in no sense, therefore, a permanent cure for nearsightedness.

The expression "strengthen the eye" can be used properly only in connection with the muscles that have to do with the movements of the eyeball. Defects of vision due to conditions of the eyeball, such as nearsightedness, are amended by the use of glasses to correct the faulty refraction of the eye itself. Every one whose vision is defective should consult a competent physician who has had a thorough training in general medicine as well as special training in the study of the eye and its diseases. Such a specialist is known as an oculist or ophthalmologist. He is the one to ascertain the cause of trouble and direct its correction.

X-Ray Machines in Beauty Shops

To the Editor:—I have read about x-rays being used to remove wrinkles and other blemishes on the skin and as I expect to establish a beauty culture parlor I should like to secure some information on the x-ray system. Do you believe the x-rays a success in such conditions? Are the machines so constructed that a person who is not a licensed doctor can use them successfully, and, if so, where can the machines be purchased?

H. E. J., Kansas.

Answer.—The x-ray is a powerful agent and capable of doing great harm. It needs to be used only by the most skilful and thoroughly trained persons, never by any one other than a physician or a trained technician under the immediate and constant direction of a physician.

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A leading authority writes: "It is the wide distribution of rachitis (rickets) which renders the campaign against it so important. This is a point which cannot be too much emphasized. Every child, including the offspring of well-to-do parents and the country-bred child, is exposed to such dangers as threaten its well-being in later years . . . *We must not rest satisfied in treating the disease when it manifests itself; prevention is of far greater importance than cure, since even the mildest attack can draw in its wake the most serious consequences in after life.*"

* *

The above is a quotation from a report of a distinguished European physician. Investigations in the United States by leading American specialists have shown similar results as to the high incidence of rickets among all classes.

Rickets, long-known as one of the most dangerous scourges of childhood, *now proves to be the most prevalent and the most insidious also.*

The certain safe-guard

The physician quoted above treated nearly 200 rickety children during two years with the Alpine Sun Lamp. The results were always the same. His summary in part follows:

"1. The exposure to ultra-violet light is an infallible remedy against all forms of rickets in children.

"2. The cures are effected more rapidly than is the case with the usual forms of treatment employed."

He concluded by stating that "The sunlight of which our children are deprived . . . must be given them in the form of the 'Alpine Sun' quartz light. . . . Protective radiation against rickets ought to be introduced as universally as is vaccination at the present day."

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At the beginning of adolescence boys and girls often develop rickets

What Ultra-violet Rays Are and What They Do

When sunlight is refracted through a prism it is broken up into seven colors, as in a rainbow—red, orange, yellow, green, blue, indigo and violet. These colors are caused by light rays of various lengths. The longest rays show red, the shortest violet.

But beyond the long red rays are still longer ones, called infra-red rays, which are too long to make an impression on the eye. And beyond the short violet rays are certain still shorter rays, which are too *short* to make an impression on the eye. These are the invisible *ultra-violet* rays.

The sole function of the infra-red rays is to furnish radiant heat. And the light rays, of course, simply enable us to see. That is their chief known function. But the *ultra-violet* rays have been discovered to be of tremendous importance to health.

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4. Promote growth.
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